Attachment A

Airport Layout Plan (Sheets 1-15)

Birchwood ALP Narrative:

A. Purpose: <leave the same just change the airport name to Birchwood>

B. Introduction:

Birchwood Airport is located approximately 20 miles north of Anchorage and west of the Glenn Highway along Knik Arm at latitude of 61º 24'N and a longitude of 149º 30'W. Birchwood is located in the Chugiak-Eagle River area, a subdivision of the Municipality of Anchorage located on the shoreline of the Knik Arm at an elevation of 95.93 ft mean sea level (Msl). The Chugiak-Eagle River area is part of the Municipality of Anchorage and is represented by Assembly District 2.

A group of Native American Indians originally inhabited the area several hundred years ago. The federal government and the construction of the Alaska Railroad have principally defined the modern history of the Birchwood area. The Chugiak-Eagle River area is a suburban residential area with little commercial or industrial activity. Most residents who live in this area commute to Anchorage, Eagle River, or the Matanuska Valley for work.

C. *Airport Usage and Forecasts*

The 1996 AASP classifies the Birchwood Airport as a Local Airport. Local airports serve as secondary access to communities connected to the road network or already served by a close-by larger airport. Local airports are airports, heliports, or seaplane facilities that are not in the regional or community classes. This classification is not expected to change during the duration of the 20 – year planning period.

Aircraft operations at Birchwood airport support general aviation operations including ultra-light aircraft, search and rescue operations, flight school activities and bush guide services. There are approximately 433 based aircraft at Birchwood airport. Current lease lot information reports 40 lots and 128 tie-downs currently leased.

The FAA categorizes airports based on types. The FAA defines Birchwood airport as a general aviation (local or itinerant) airport. No air taxis are based at Birchwood and no air carriers or military currently use or expected to use the airport during the planning period.

The fleet mix currently used by the majority of airport users is listed below:

Design Group	Aircraft	Approach Speed (knots)
A-I	Cessna 172, 180, 210, 310-320, Beech 18, Piper PA-12, PA-18; Ultra light Vehicles	
A-II	Cessna Caravan, Stationair	
B - II	Piper Aztec, Piper Navajo	

Operations forecasts are based on a number of factors including past airport activity, available information about the aircraft operations, socio-economic factors and demographics of the region. As an airport within the municipality of Anchorage, Birchwood supports a large amount of the general aviation traffic and flight school operations. Several ultra-light vehicles are based at BCV. By adding a second runway and allowing the required separation between the runways simultaneous aircraft operations will be able to safely accommodate the growing air traffic demand of the Birchwood airport in a safe and efficient manner.

Aircraft Operations Activity				
Year	Current	2010 (projected)	2015 (projected)	2020 (projected)
Operations	86,108	91,831	97,554	109,000

D. Staged Development.

Improvements to the Birchwood Airport for the 20 year planning period will be in three phases: Phase 1 - short term (0-5 years), Phase II - mid-term (5-10 years) and Phase III - long term (10 – 20 years). *Staged development will allow the airport to continue to fully function through the construction*

pavement and 1,600 ft gravel) and 50 ft wide, intended for use by GA aircraft equipped with tundra tires or skis and by ultra light vehicles.
Runway 01R/19L (2,200 ft. long by 50 ft. wide) currently serves as the sole runway for ultra light vehicles and aircraft equipped with tundra tires or skis. Of the aircraft forecast to regularly operate on Runway 01R/19L, the Cessna 180 (ARC A-I) is the most demanding aircraft and requires 1,310 ft. of runway length. The minimum runway width for the FAA ARC A-I is 60 ft. Based on the anticipated fleet mix, the ARC applicable to Runway 01R/19L is A-I.

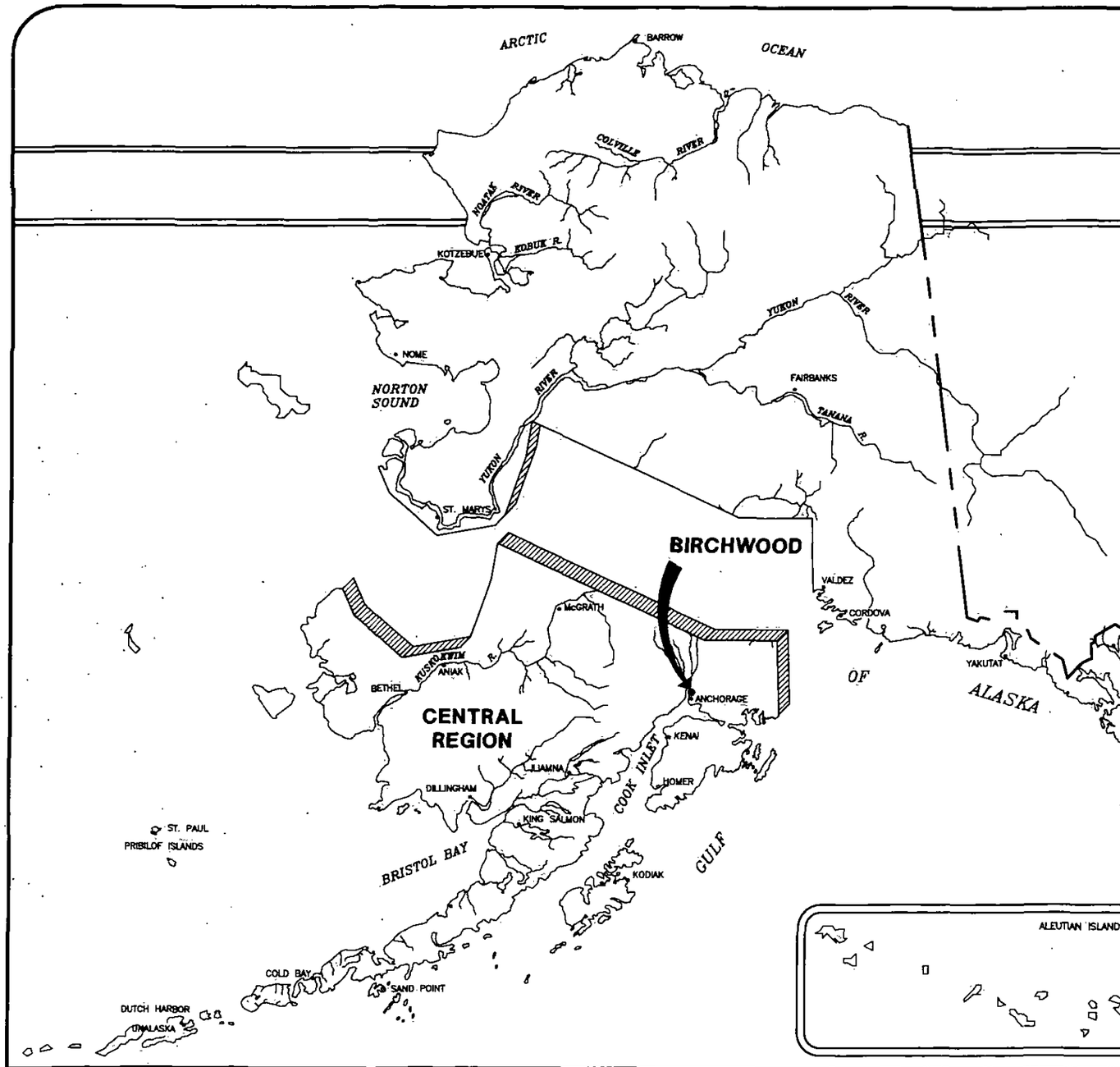
4. Taxiway
Ten taxiways provide access to Birchwood's two runways; all are 50 ft wide and can support an aircraft maximum gross weight of 12,500 pounds. The aprons and parking areas lead to two taxiways (Alpha and Bravo) that run parallel to Runway 01L/19R. Eight short taxiways connect the parallel taxiways to the runway. *During Phase II, a new taxiway Delta* would be developed between runway 1L/19R and the parallel taxiway Bravo linking the west apron to the runway ¾ of the length down the runway.

5. Aprons
The Birchwood Airport provides three paved locations to accommodate aircraft parking and tie-downs.

Apron	Current Area (ft^2)	Proposed Area (ft^2)	CURRENT TIE-DOWNS	PROPOSED TIE-DOWNS
Southeast	194,625		45	
Northeast	388,875		99	
West	631,675		221	
Apron Total (ft^2)	1,215,175		365	
Tie downs outside the aprons			65	
Ultra-Light Apron	N/A			
Total Tie Downs			430	

P. Property Status:
Municipal zoning and platting ordinances do not apply to the Birchwood Airport because it is located on state property. The airport property is presently zoned for Light Industrial (I-1). The surrounding land is zoned for Light Industrial (I-1), Heavy Industrial (I-2), Public Lands and Institutions (PLI), and Suburban Residential (R-6) (large lot).

Q.



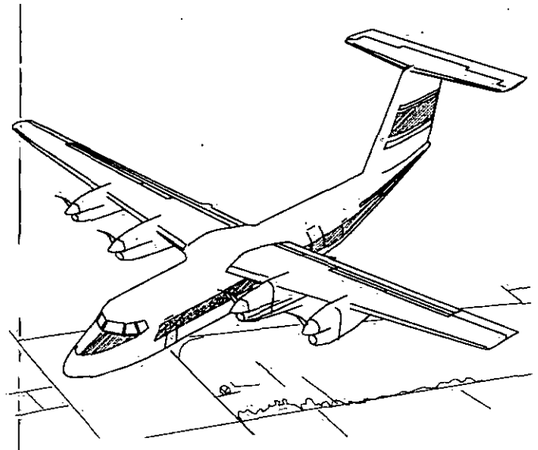
AIRPORT LAYOUT PLAN FOR

BIRCHWOOD

2005

DRAWING INDEX

DRAFT



SPONSORED BY
STATE OF ALASKA
DEPARTMENT OF TRANSPORTATION AND PUBLIC FACILITIES
CENTRAL REGION

CONCUR _____ DATE _____
ROBERT A. CAMPBELL, P.E. REGIONAL PRECONSTRUCTION ENGINEER

APPROVED _____ DATE _____
HARVEY M. DOUTHIT P.E. DESIGN SECTION CHIEF

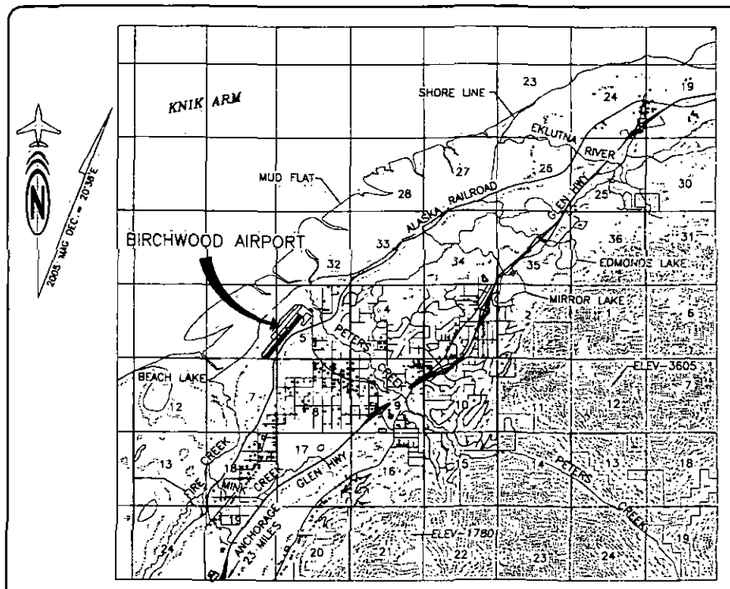
AIRPORT LAYOUT PLAN CONDITIONAL APPROVAL
SUBJECT TO ALP APPROVAL LETTER DATED _____

By: _____ DATE: _____
FAA, AIRPORTS DIVISION
ALASKAN REGION

FAA AIRSPACE REVIEW NUMBER
05-AAL-

BIRCHWOOD
AIRPORT LAYOUT PLAN

SHEET 1 OF 15



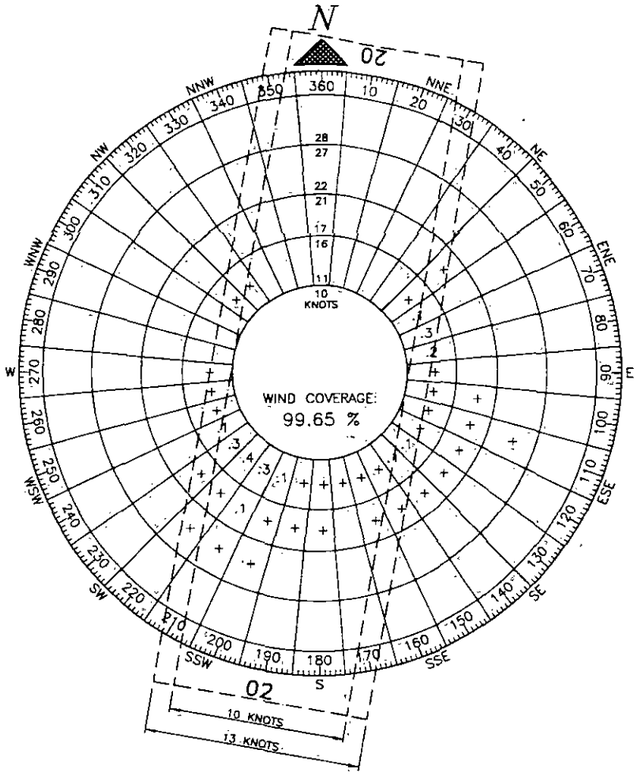
VICINITY MAP

T 15 N, T 16 N, R 1 W, R 2 W, SEC 6 & 5
SEWARD MERIDIAN
U.S.G.S. ANCHORAGE (B-7), ALASKA
NOTE: ELEVATIONS IN FEET.

0 1 2 3

LEGEND

ITEM	EXISTING	ULTIMATE
PROPERTY LINE		
BUILDING RESTRICTION LINE	BRL	BRL
AVIGATION & HAZARD EASEMENT		
AIRPORT REFERENCE POINT (A.R.P.)		
WIND CONE AND SEGMENTED CIRCLE		
BUILDINGS		
BUILDING NUMBER		
FENCE		
UNPAVED ROADWAYS		
PAVED ROADWAYS/RUNWAYS		
SHORELINE		
ANTENNA		
VASI OR PAPI		
CONTOURS	100	100
ROTATING BEACON		
THRESHOLD		
REIL		
RUNWAY SAFETY AREA		
AVIATION NAVIGATION LIGHTS		
TREES		



WIND DATA

WIND COVERAGE:	SPEED	R/W 01/19
	10.0 KNOTS	99.65%
	13.0 KNOTS	99.81%
SOURCE:	BIRCHWOOD AWOS DATA, IS FOR BIRCHWOOD, ALASKA	
PERIOD:	JULY 1996 – DECEMBER 1998	

RUNWAY DATA

ITEM		RUNWAY 02/20 EXISTING	RUNWAY 02/20 ULTIMATE	RUNWAY 02S/20S EXISTING	RUNWAY 02S/20S ULTIMATE	RUNWAY 02U/20U ULTIMATE
RUNWAY END IDENTIFIER NUMBER		01L/19R	02/20	01R/19L	02S/20S	02U/20U
EFFECTIVE GRADE		0.37 %	SAME	0.30 %	0.13%	0.50%
% WIND COVERAGE	10.5 KNOTS	99.65%	SAME	99.65%	SAME	99.65%
	13 KNOTS	99.81%	SAME	99.81%	SAME	99.81%
INSTRUMENT RUNWAY		NONE	SAME	NONE	SAME	NONE
RUNWAY SURFACE		ASPHALT	SAME	GRAVEL	SAME	ASPHALT
PAVEMENT STRENGTH	lb.	12,500	SAME	12,500	SAME	12,500
APPROACH SURFACES		20:1	SAME	20:1	SAME	20:1
VISIBILITY MINIMUM		VISUAL, 1 MILE	SAME	VISUAL, 1 SM	SAME	VISUAL, 1 SM
RUNWAY LIGHTING		MIRL	SAME	NONE	SAME	NONE
RUNWAY MARKING		NON-PRECISION	SAME	NONE	SAME	VISUAL
RUNWAY VISUAL AIDS		VASI (RWY 20)	PAPI (RWY 20)	NONE	SAME	NONE
AIRCRAFT APPROACH CATEGORY		B	SAME	A	SAME	A
AIRCRAFT DESIGN GROUP		II	SAME	I	SAME	I
RUNWAY DIMENSIONS		4,010'x100'	4,015'x100'	2,200'x50'	1,535'x60'	1,000'x60'
RUNWAY SAFETY AREA DIMENSIONS		4,490'x120'	4,615'x150'	2,580'x120'	2,015'x120'	1,480'x120'
RUNWAY OBJECT FREE AREA DIMENSIONS		4,490'x400'	4,610'x500'	2,680'x250'	2,015'x250'	1,480'x250'
RUNWAY OBSTACLE FREE ZONE DIMENSIONS		4,410'x250'	4,410'x250'	2,600'x250'	1,935'x250'	1,400'x250'
GEODETIC POSITIONS (N.A.D. 83)						
THRESHOLD 02	LATITUDE	61°24'42.31"N	SAME	61°24'48.84"N	61°24'43.53"N	61°24'14.22"N
	LONGITUDE	149°30'58.31"W	SAME	149°30'41.99"W	149°30'53.61"W	149°31'17.91"W
THRESHOLD 20	LATITUDE	61°25'12.83"N	SAME	61°25'05.68"N	61°24'55.28"N	61°24'21.88"N
	LONGITUDE	149°30'05.97"W	SAME	149°30'13.54"W	149°30'33.77"W	149°31'04.99"W
RUNWAY PROTECTION ZONE DIMENSIONS	INNER WIDTH	250'	500'	250'	SAME	250'
	OUTER WIDTH	450'	700'	450'	SAME	450'
	LENGTH	1000'	1000'	1000'	SAME	1000'

DUE TO CHANGING MAGNETIC DECLINATION THE DIFFERENCE BETWEEN MAGNETIC NORTH AND THE RUNWAY CENTERLINE BEARING IS 18°46'. FUTURE RUNWAY DESIGNATIONS WILL CHANGE AS FOLLOWS:

EXISTING	FUTURE
01L/19R	02/20
01R/19L	02S/20S

02S/20S REFERS TO THE GRAVEL RUNWAY-SHORT TAKEOFF AND LANDING (STOL)
02U/20U REFERS TO THE ULTRALIGHT RUNWAY

AIRPORT DATA

ITEM		EXISTING	ULTIMATE
IACO/ NATIONAL AIRPORT IDENTIFIER		PABV/BCV	SAME
FAA SITE NUMBER		50069.A	SAME
AIRPORT ELEVATION (M.S.L.) SEE NOTE 1 BELOW		95.93' (MOA GAAB72)	83.02' (NAVD 88)
AIRPORT REFERENCE POINT (A.R.P.) (NAD 83)	LATITUDE	61°24'57.57"	61°24'49.584"
	LONGITUDE	149°30'32.15"	149°30'40.743"
MEAN MAX. TEMPERATURE, HOTTEST MONTH (JULY)		65.0°F	SAME
AIRPORT REFERENCE CODE		B-II	SAME
AIRPORT NAVIGATION AIDS		ROTATING BEACON	SAME

NON-STANDARD CONDITIONS

ITEM	EXISTING	STANDARD	ULTIMATE
R/W 02 SAFETY AREA LENGTH	200'	300'	300'
R/W CENTERLINE TO TAXIWAY CENTERLINE SEPARATION TAXIWAY A	200'	240'	240'
R/W PROTECTION ZONE – MAIN RUNWAY	A-I	B-II	B-II
SEPARATION BETWEEN EXISTING SKI/TUNDRA TIRE/ ULTRALIGHT R/W 1R/19L & R/W 1L/19R (SIMULTANEOUS OPERATIONS)	200'	700'	100'*
FENCE CROSSES SOUTH END OF R/W 2/20 SAFETY AREA	RSA OBSTRUCTED	RSA CLEAR OF OBSTACLES	RELOCATE FENCE
RPZ'S ARE NOT ON AIRPORT PROPERTY	RPZ'S OFF PROPERTY	AIRPORT TO CONTROL RPZ'S	AQUIRE PROPERTY

*SEE SECTION E OF THE NARRATIVE REPORT FOR DISCUSSION

TAXIWAY DATA

	A EXISTING	A ULTIMATE	B	C EXISTING	C ULTIMATE	D EXISTING	D ULTIMATE	E EXISTING	E ULTIMATE	F ULTIMATE	G EXISTING	G ULTIMATE	H ULTIMATE	I ULTIMATE
TAXIWAY WIDTH	50'	30'/50'	50'	50'	50'	50'	50'	34'	35'	50'	50'	50'	30'	30'
TAXIWAY LENGTH	1813'	4444'	4560'	125'	348'	124'	385'	127'	385'	225'	127'	750'	98'	98'
TAXIWAY SHOULDER WIDTH	10'	10'	10'	10'	10'	10'	10'	10'	10'	10'	10'	10'	10'	10'
TAXIWAY SEPARATION FROM RUNWAY	200'	150'/240'	300'	--	--	--	--	--	--	--	--	--	--	--
TAXIWAY SAFETY AREA WIDTH	--	79'	79'	--	79'	--	79'	--	79'	79'	--	79'	49'	49'
TAXIWAY OBJECT FREE AREA WIDTH	--	131'	131'	--	131'	--	131'	--	131'	131'	--	131'	89'	89'
TAXIWAY LIGHTING	NONE	M.I.T.L.	M.I.T.L.	M.I.T.L.	SAME	M.I.T.L.	SAME	M.I.T.L.	SAME	M.I.T.L.	M.I.T.L.	SAME	NONE	NONE

NOTES

1. AIRPORT DATUM TO BE CHANGED FROM THE MUNICIPALITY OF ANCHORAGE GAAB72 DATUM TO NAVD88. THIS WILL CHANGE THE AIRPORT ELEVATION FROM 95.93'MSL TO 83.02'MSL.

   VERTICAL DATUM IS NGS NAVD88, ESTABLISHED BY GPS TIES TO AKDOT CONTROL POINTS "BEAR" AND "PETER" USING GEOID99 UNDULATIONS AND FIXED-ORTHOMETRIC HEIGHTS COMPUTED BY APPLYING A DATUM SHIFT OF +6.26311 TO AKDOT PROVIDED MOA GAAB72 ELEVATIONS. SAID DATUM SHIFT REFLECTS THE DIFFERENCE BETWEEN THE AKDOT PROVIDED MOA GAAB72 ELEVATION AND THE PUBLISHED NGS NAVD88 ELEVATION AT STATION "Q 83" (PID: TT0571)

2. BIRCHWOOD AIRPORT IS A UTILITY AIRPORT
   MAXIMUM AIRCRAFT WEIGHT IS 12,500 lbs.

3. 2010 EPOCH YEAR MAGNETIC DECLINATION IS 19°23'E AND CHANGES 0°16'W PER YEAR

DRAFT

AIRPORT LAYOUT PLAN CONDITIONAL APPROVAL
SUBJECT TO ALP APPROVAL LETTER
DATED: _____

By: _____
FAA, AIRPORTS DIVISION
ALASKAN REGION, 02AAL-190NRA

DATE: _____

FAA AIRSPACE REVIEW NUMBER: 05-AAL-XXXXX-XXXXXX

BY	DATE	REVISIONS

STATE OF ALASKA
DEPARTMENT OF TRANSPORTATION AND PUBLIC FACILITIES
CENTRAL REGION-DESIGN AND CONSTRUCTION-AVIATION

APPROVED: _____
HARVEY M. DOUTHIT P.E. DESIGN SECTION CHIEF

APPROVED: _____
DONALD W. BAXTER, P.E. PROJECT MANAGER

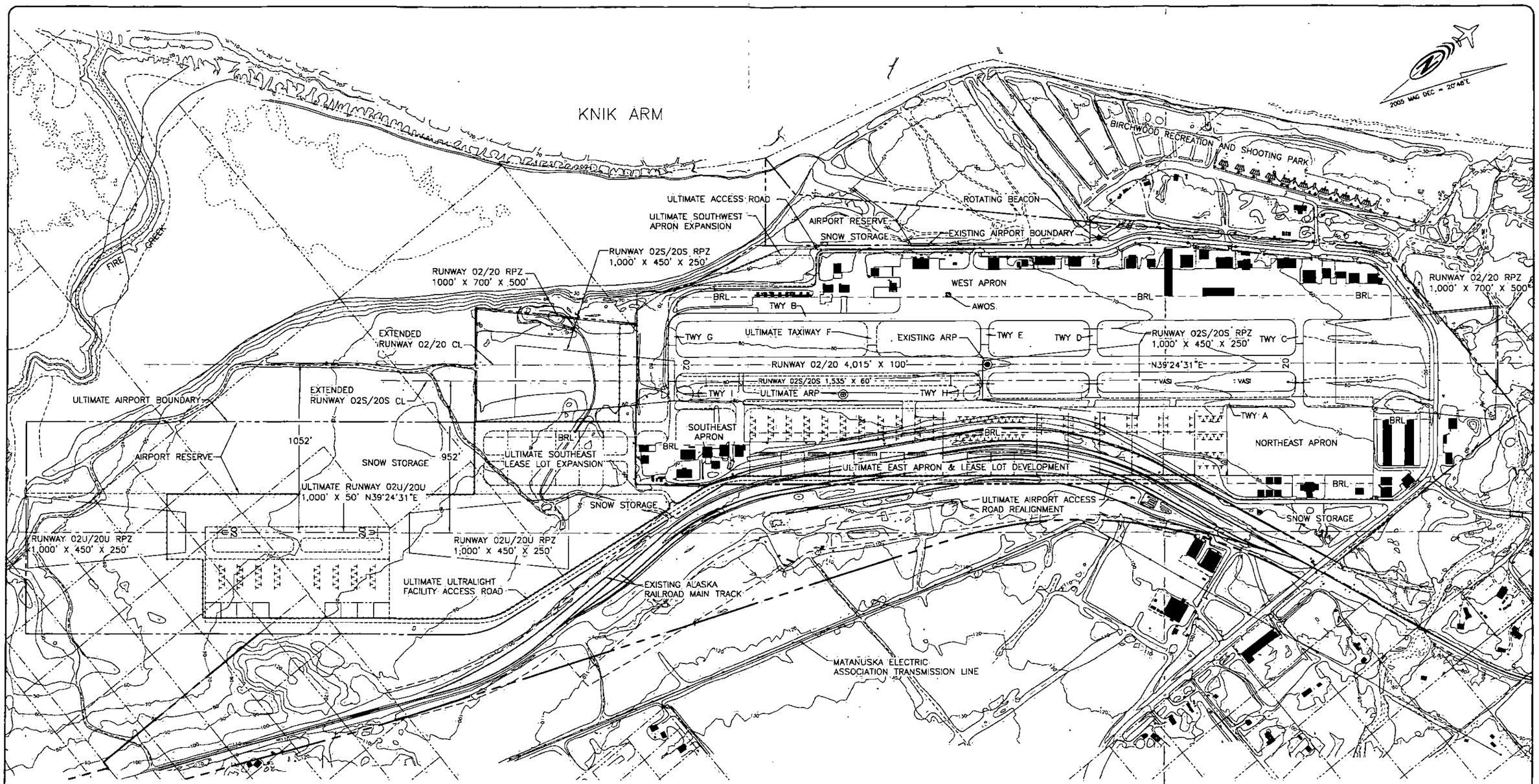
DATE: SEPTEMBER 2005
DESIGN: DJC
DRAWN: LJW
CHECKED: ESW

BIRCHWOOD AIRPORT

AIRPORT LAYOUT PLAN

VICINITY MAP AND DATA TABLES

SHEET 2 OF 15



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APPROVED: _____
DONALD W. BAXTER, P.E. PROJECT MANAGER

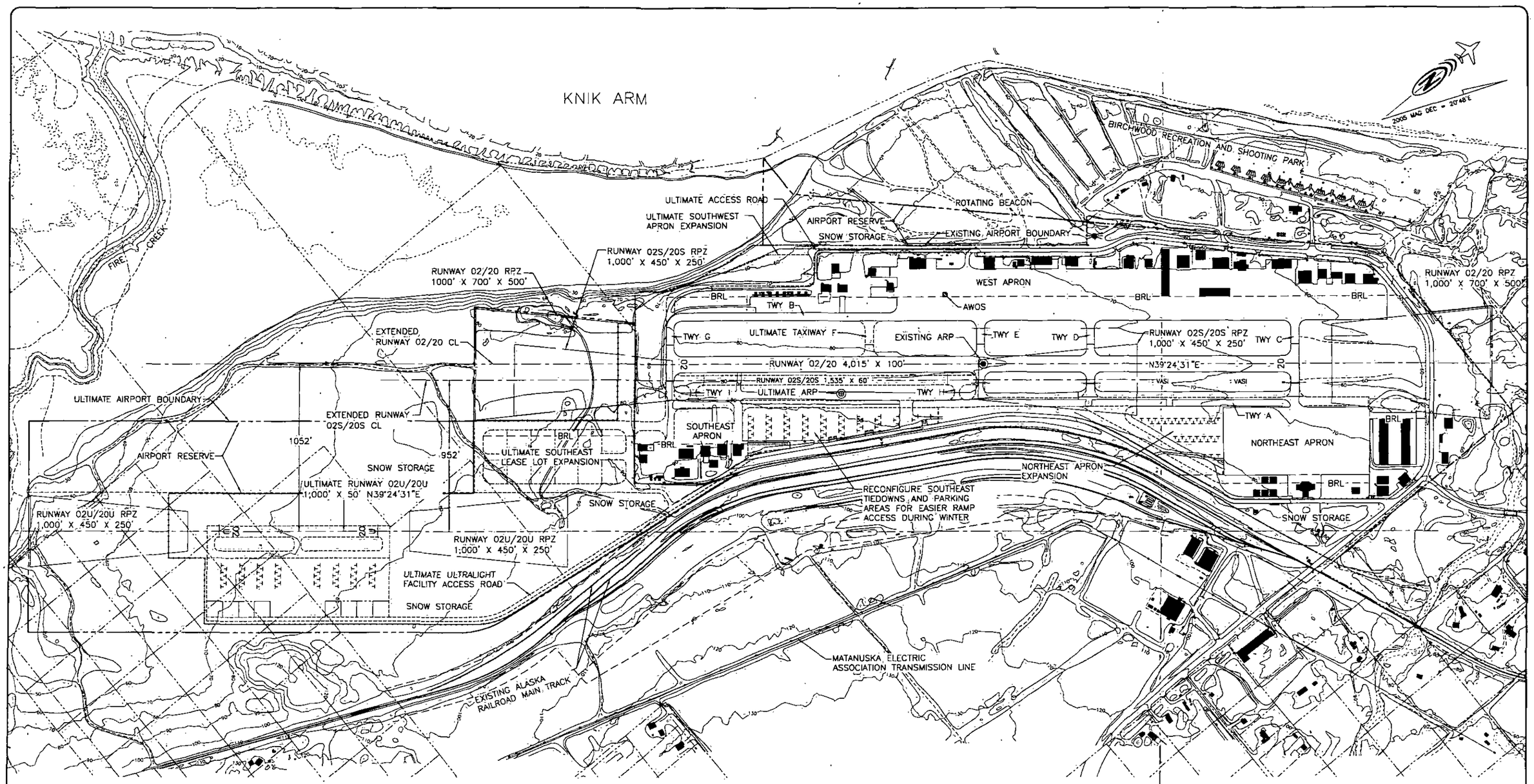
DATE: SEPTEMBER 2005
DESIGN: DJG
DRAWN: LJW
CHECKED: ESW

BIRCHWOOD AIRPORT

AIRPORT LAYOUT PLAN

AIRPORT LAYOUT PLAN, ULTIMATE

SHEET 3 OF 15



300 0 300 600 900 1200

1" = 300'

THE FIRST CONSTRUCTION PHASE CONSISTS OF:
- MOVING THE GRAVEL RUNWAY
- REPAINTING THE RUNWAY NUMBERS
- CREATING A NEW ULTRALIGHT RUNWAY, APRON & ACCESS ROAD
- CREATING AREA FOR MORE LEASE LOTS AND TIEDOWNS
- INSTALL SECURITY FENCE AROUND NEW DEVELOPMENT

DRAFT

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APPROVED: _____
DONALD W. BAXTER, P.E. PROJECT MANAGER

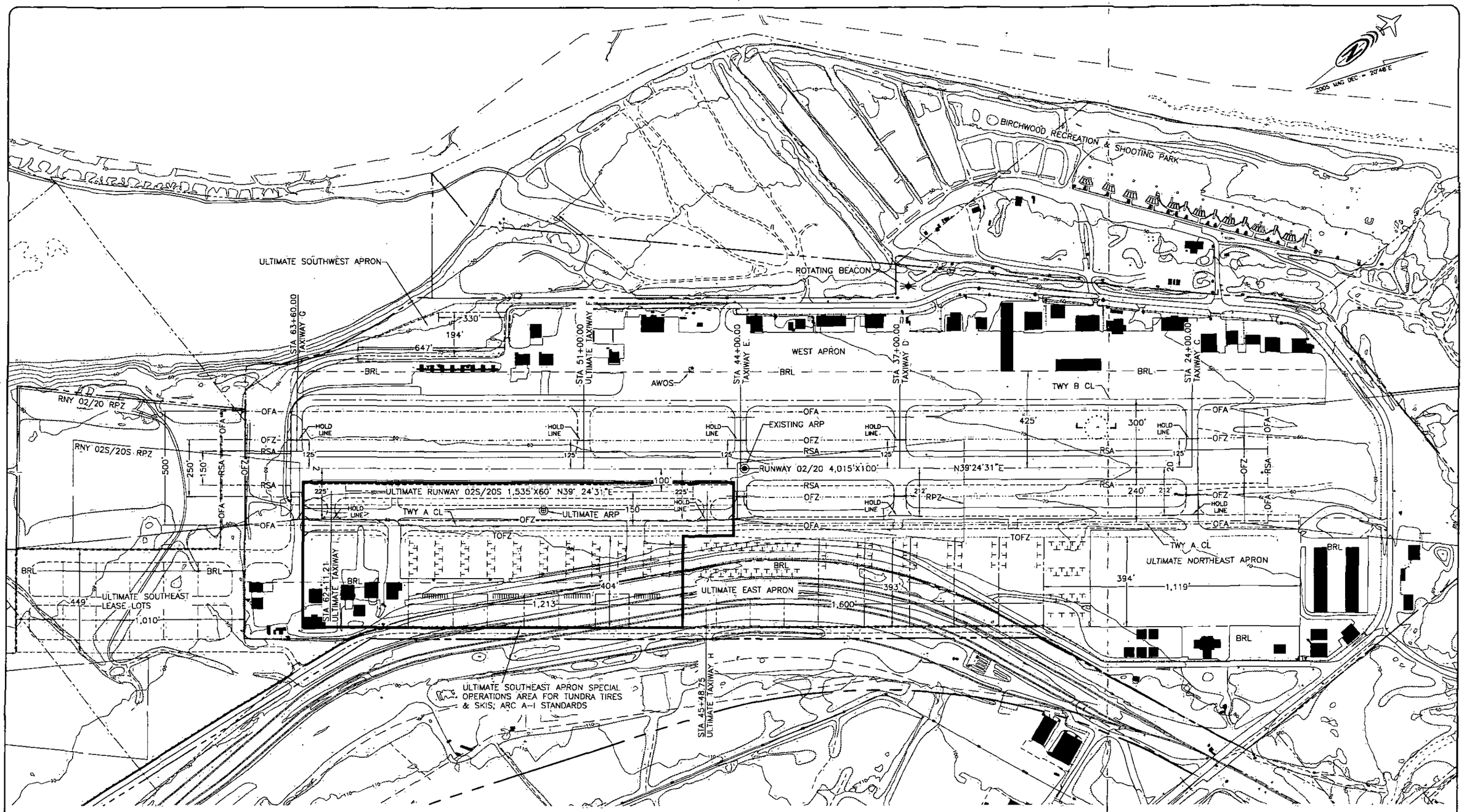
DATE: SEPTEMBER 2005
DESIGN: DJG
DRAWN: LJW
CHECKED: ESW

BIRCHWOOD AIRPORT

AIRPORT LAYOUT PLAN

AIRPORT LAYOUT PLAN, NEAR TERM

SHEET 4 OF 15



RUNWAY PLAN 02/20

DRAFT

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HARVEY M. DOUTHIT P.E. DESIGN SECTION CHIEF

APPROVED: _____
DONALD W. BAXTER, P.E. PROJECT MANAGER

DATE: SEPTEMBER 2005
DESIGN: DJG
DRAWN: LJW
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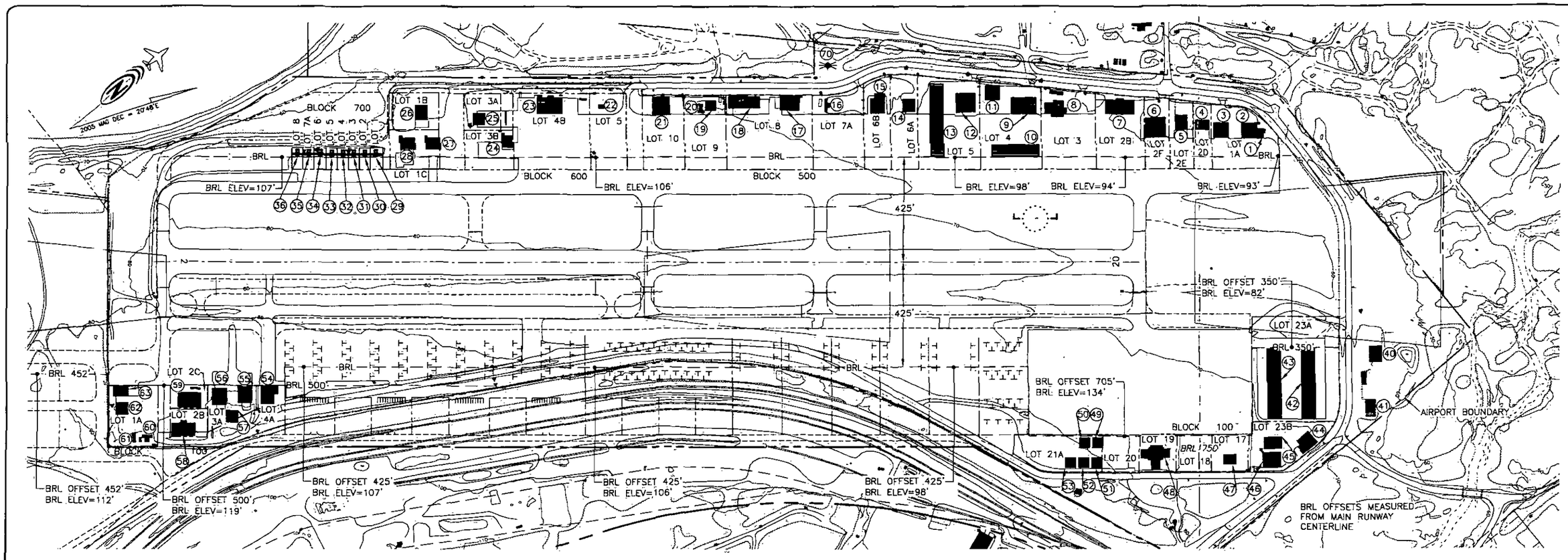
BIRCHWOOD AIRPORT

AIRPORT LAYOUT PLAN

RUNWAY 02/20, 02S/20S ULTIMATE PLAN

SHEET 5 OF 15



AIRPORT TERMINAL AREA

TERMINAL AREA BUILDING TABLE

No.	DESCRIPTION	TOP ELEVATION	LOT	BLOCK	OBSTRUCTION MARKING	COMMENT
1	OFFICE BUILDING	66.70	1A	500	NONE	
2	HANGAR	74.00	1A	500	NONE	
3	HANGAR	85.30	1A	500	NONE	
4	HANGAR	77.50	2D	500	NONE	
5	HANGAR	80.00	2E	500	NONE	
6	HANGAR	85.10	2F	500	NONE	
7	HANGAR	89.10	2B	500	NONE	
8	HANGAR	84.60	3	500	NONE	
9	HANGAR	86.80	4	500	NONE	
10	T HANGARS	82.60	4	500	NONE	
11	HANGAR	81.50	4	500	NONE	
12	HANGAR	89.90	5	500	NONE	
13	T HANGARS	83.20	5	500	NONE	
14	HANGAR	83.20	6A	500	NONE	
15	HANGAR	92.10	6B	500	NONE	
16	MOVABLE BUILDING	---	7A	500	NONE	
17	HANGAR	98.50	8	500	NONE	
18	T HANGARS	91.00	8	500	NONE	
19	HANGAR	90.30	9	500	NONE	
20	OFFICE BUILDING	86.60	9	500	NONE	
21	HANGAR	99.00	10	500	NONE	
22	PILOT SHELTER	86.20	5	600	NONE	
23	HANGAR	90.80	4B	600	NONE	

TERMINAL AREA BUILDING TABLE

No.	DESCRIPTION	TOP ELEVATION	LOT	BLOCK	OBSTRUCTION MARKING	COMMENT
24	HANGAR	97.60	3B	600	NONE	
25	HANGAR	97.20	3A	600	NONE	
26	HANGAR	100.90	1B	600	NONE	
27	HANGAR	105.50	1C	600	NONE	
28	HANGAR	105.10	1C	600	NONE	
29	SINGLE T HANGER	88.10	1	700	NONE	
30	SINGLE T HANGER	88.80	2	700	NONE	
31	SINGLE T HANGER	87.90	3	700	NONE	
32	SINGLE T HANGER	88.30	4	700	NONE	
33	SINGLE T HANGER	88.00	5	700	NONE	
34	SINGLE T HANGER	88.40	6	700	NONE	
35	SINGLE T HANGER	88.50	7A	700	NONE	
36	SINGLE T HANGER	88.60	8	700	NONE	
40	FIRESTATION, AIRPORT MAINT.	80.90	---	100	NONE	
41	SNOW PLOW GARAGE	87.90	---	100	NONE	
42	T HANGARS	87.30	23A	100	NONE	
43	T HANGARS	87.10	23A	100	NONE	
44	HANGAR	100.40	23B	100	NONE	
45	HANGAR	96.10	23B	100	NONE	
46	HANGAR	101.30	23B	100	NONE	
47	HANGAR	97.20	17	100	NONE	
48	HANGAR, OFFICE BUILDING	98.50	19	100	NONE	
49	HANGAR	101.50	20	100	NONE	

TERMINAL AREA BUILDING TABLE

No.	DESCRIPTION	TOP ELEVATION	LOT	BLOCK	OBSTRUCTION MARKING	COMMENT
50	HANGAR	102.20	20	100	NONE	
51	HANGAR	103.00	21	100	NONE	
52	HANGAR	103.70	21	100	NONE	
53	HANGAR	104.30	21	100	NONE	
54	HANGAR	107.00	4A	100	NONE	
55	HANGAR	117.40	3A	100	NONE	
56	HANGAR	117.30	3A	100	NONE	
57	HANGAR	114.10	3A	100	NONE	
58	HANGAR	119.10	2B	100	NONE	
59	HANGAR	117.30	2C	100	NONE	
60	SINGLE T HANGAR	104.60	1A	100	NONE	
61	OFFICE BUILDING	102.70	1A	100	NONE	
62	HANGAR	116.90	1A	100	NONE	
63	HANGAR	107.20	1A	100	NONE	
70	ROTATING BEACON TOWER	177.60	---	500	YES	

200 0 200 400 600 800

1" = 200'

DRAFT

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DEPARTMENT OF TRANSPORTATION AND PUBLIC FACILITIES
CENTRAL REGION-DESIGN AND CONSTRUCTION-AVIATION

APPROVED: _____
HARVEY M. DOUTHIT P.E. DESIGN SECTION CHIEF

APPROVED: _____
DONALD W. BAXTER, P.E. PROJECT MANAGER

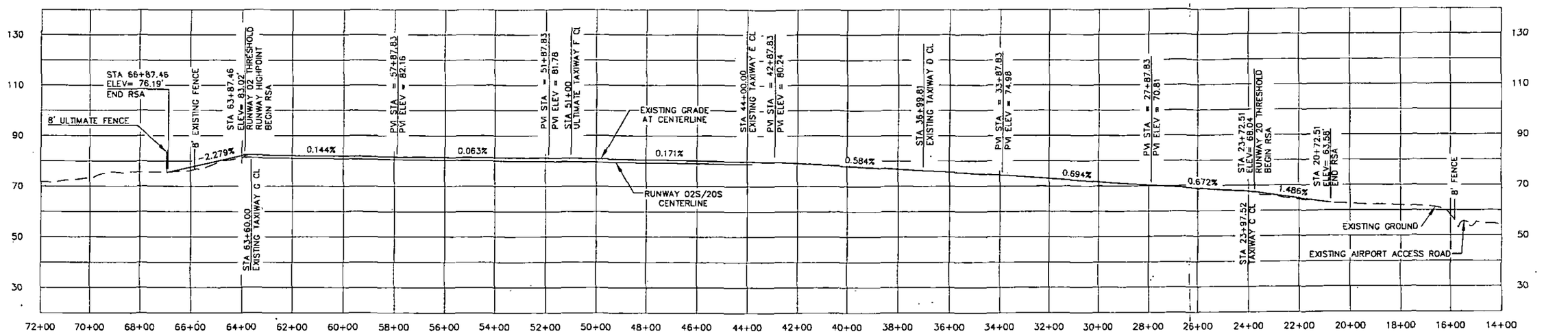
DATE: SEPTEMBER 2005
DESIGN: DJG
DRAWN: LJW
CHECKED: ESW

BIRCHWOOD AIRPORT

AIRPORT LAYOUT PLAN

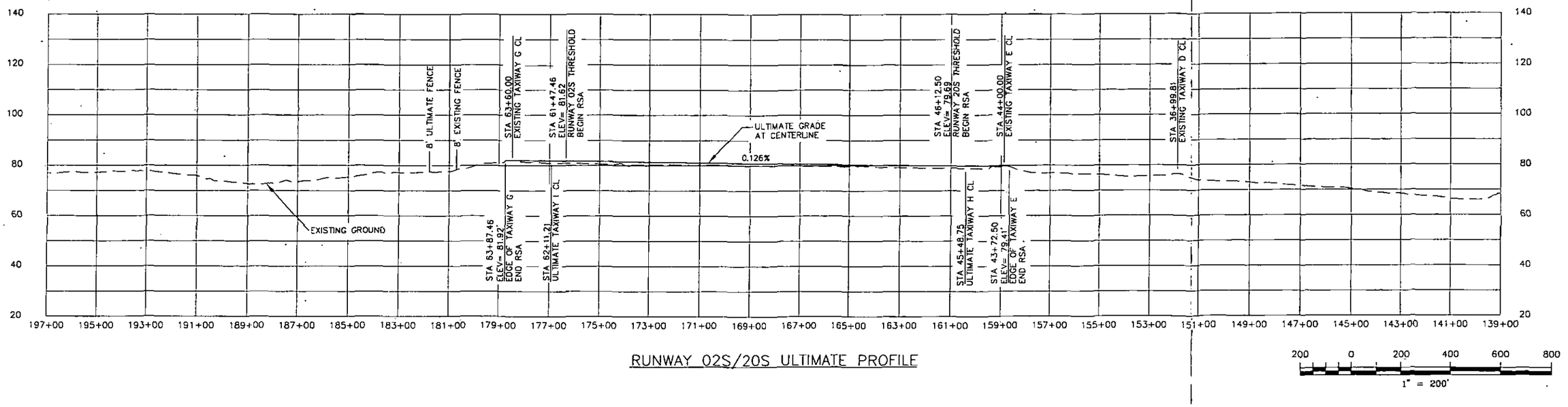
AIRPORT TERMINAL AREA

SHEET 6 OF 15



RUNWAY 02/20 ULTIMATE PROFILE

RUNWAY CENTERLINES SEPARATED BY 100 FEET



RUNWAY 02S/20S ULTIMATE PROFILE

DRAFT

AIRPORT LAYOUT PLAN CONDITIONAL APPROVAL
SUBJECT TO ALP APPROVAL LETTER
DATED: _____

BY: _____
FAA, AIRPORTS DIVISION
ALASKAN REGION, 02AAL-190NRA

DATE: _____

FAA AIRSPACE REVIEW NUMBER: 05-AAL-XXXXX-XXXXX

BY	DATE	REVISIONS

STATE OF ALASKA
DEPARTMENT OF TRANSPORTATION
AND PUBLIC FACILITIES
CENTRAL REGION-DESIGN AND CONSTRUCTION-AVIATION

APPROVED: _____
HARVEY M. DOUTHIT P.E. DESIGN SECTION CHIEF

APPROVED: _____
DONALD W. BAXTER, P.E. PROJECT MANAGER

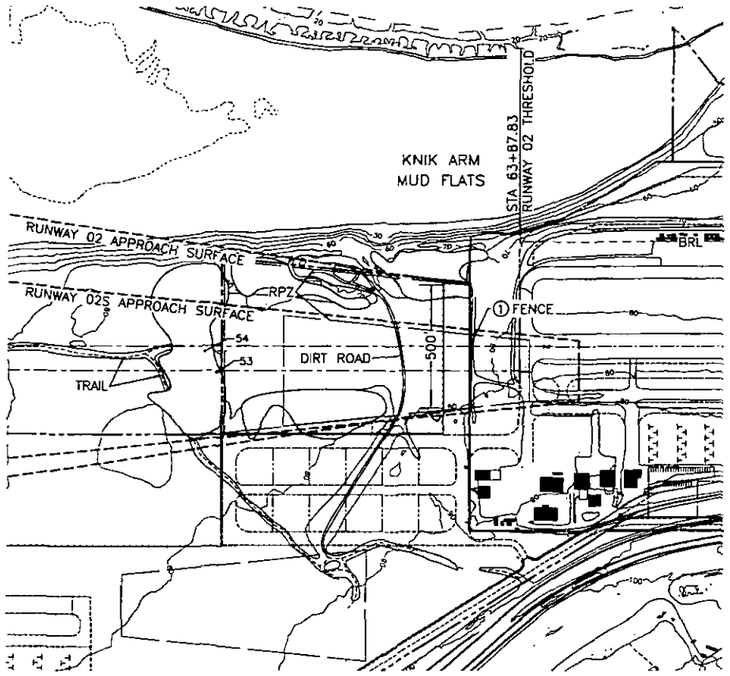
DATE: SEPTEMBER 2005
DESIGN: DJG
DRAWN: LJW
CHECKED: ESW

GIRDWOOD AIRPORT

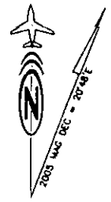
AIRPORT LAYOUT PLAN

RUNWAY 02/20, 02S/20S PROFILES

SHEET 7 OF 15



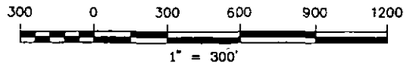
RUNWAY 02 & 02S APPROACH PLAN

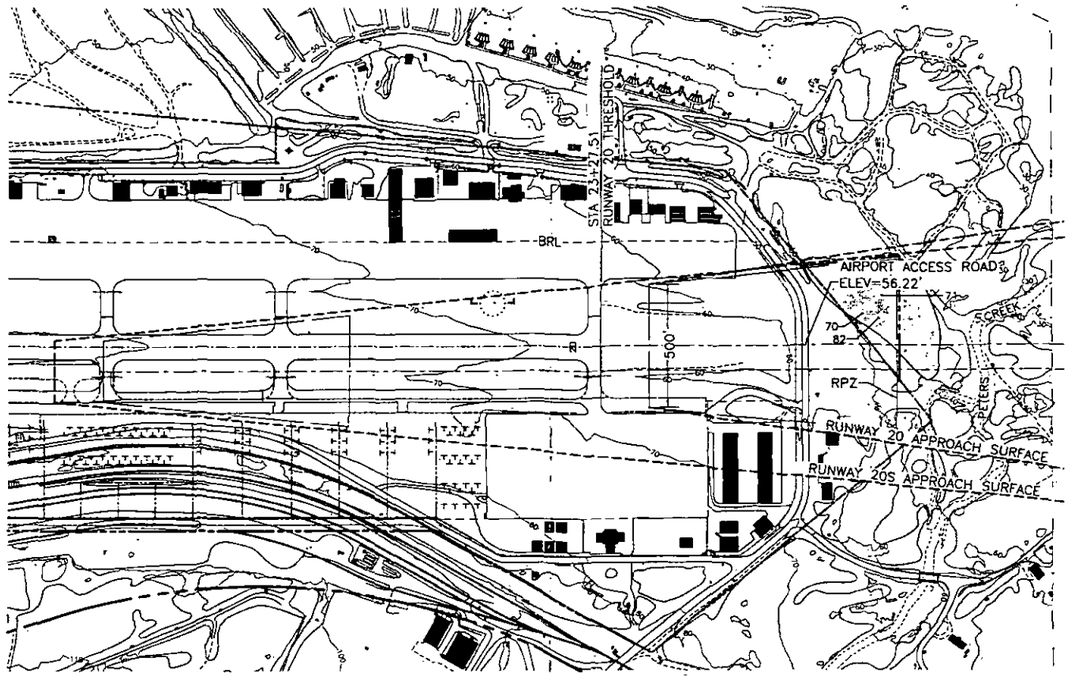


THE SHADED AREAS REPRESENT A GROUP OF TREES THAT PENETRATE THE TWO APPROACH SURFACES. SEE SHEET 11 FOR TREE OBSTRUCTION DATA.

THERE ARE THRESHOLD SITING SURFACE PENETRATIONS FOR RUNWAY 02/20 (FROM TREES)

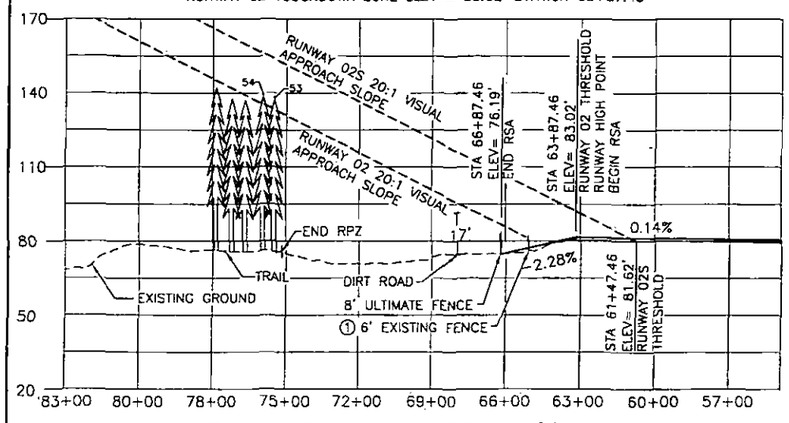
THERE ARE OBJECT FREE AREA PENETRATIONS (FENCE CROSSES APPROACH END OF 02)





RUNWAY 20 & 20S APPROACH PLAN

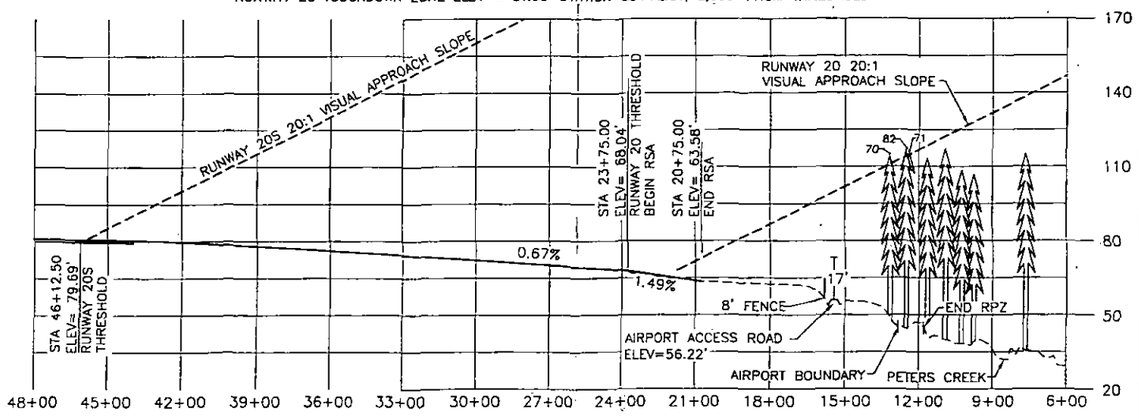
RUNWAY 02 TOUCHDOWN ZONE ELEV = 83.02' STATION 63+87.46



RUNWAY 02 & 02S APPROACH PROFILE

EXISITNG OBSTRUCTION CLEARANCE SLOPES:
RUNWAY 02 = 18:1
RUNWAY 20 = 18:1
(THE OBSTRUCTIONS ARE TREES)

RUNWAY 20 TOUCHDOWN ZONE ELEV = 81.90' STATION 53+72.51, 3,000' FROM THRESHOLD



RUNWAY 20 & 20S APPROACH PROFILE

OBSTRUCTION TABLE

OBSTRUCTION NUMBER	OBSTRUCTION ELEVATION	OBSTRUCTION	AMOUNT OF OBSTRUCTION	DESCRIPTION	DISPOSITION
①	83.43	YES	0.41	OBSTRUCTION TO 20:1 APPROACH SURFACE	ROUTE FENCE AROUND THE RSA

DRAFT

AIRPORT LAYOUT PLAN CONDITIONAL APPROVAL
SUBJECT TO ALP APPROVAL LETTER
DATED: _____

BY: _____
FAA, AIRPORTS DIVISION
ALASKAN REGION, 02AAL-190NRA

DATE: _____

FAA AIRSPACE REVIEW NUMBER: 05-AAL-XXXXX-XXXXXX

BY	DATE	REVISIONS

STATE OF ALASKA
DEPARTMENT OF TRANSPORTATION AND PUBLIC FACILITIES
CENTRAL REGION-DESIGN AND CONSTRUCTION-AVIATION

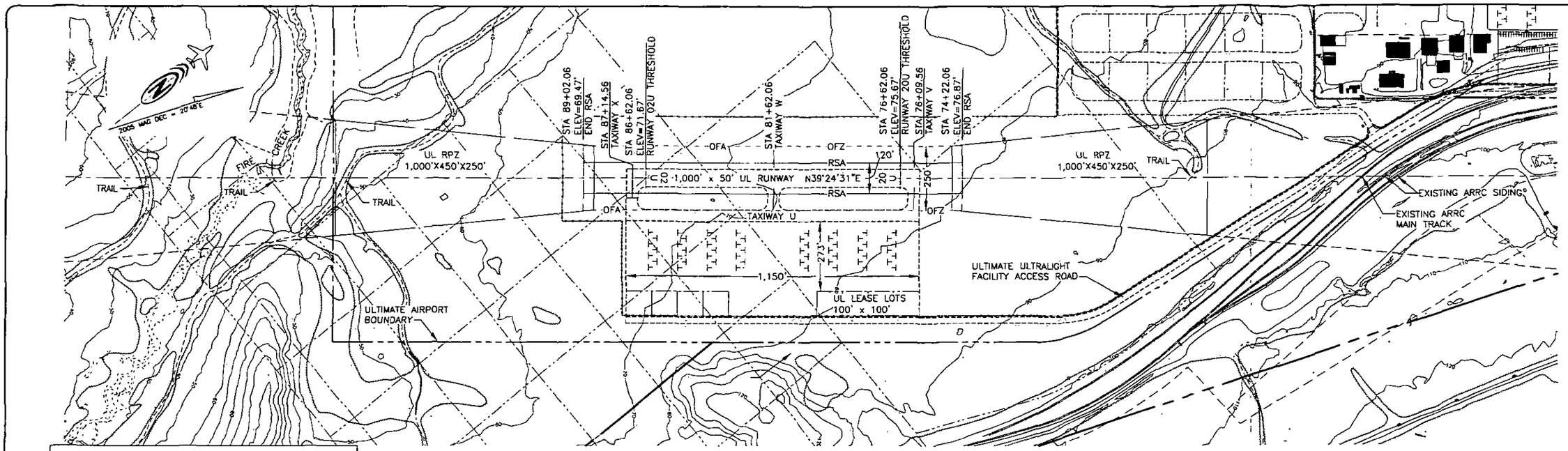
APPROVED: _____
HARVEY M. DOUTHIT P.E. DESIGN SECTION CHIEF

APPROVED: _____
DONALD W. BAXTER, P.E. PROJECT MANAGER

DATE: SEPTEMBER 2005
DESIGN: DJG
DRAWN: LJW
CHECKED: ESW

BIRCHWOOD AIRPORT
AIRPORT LAYOUT PLAN
ULTIMATE
RUNWAY 02/20, 02S/20S
RUNWAY APPROACH SURFACES

SHEET 8 OF 15

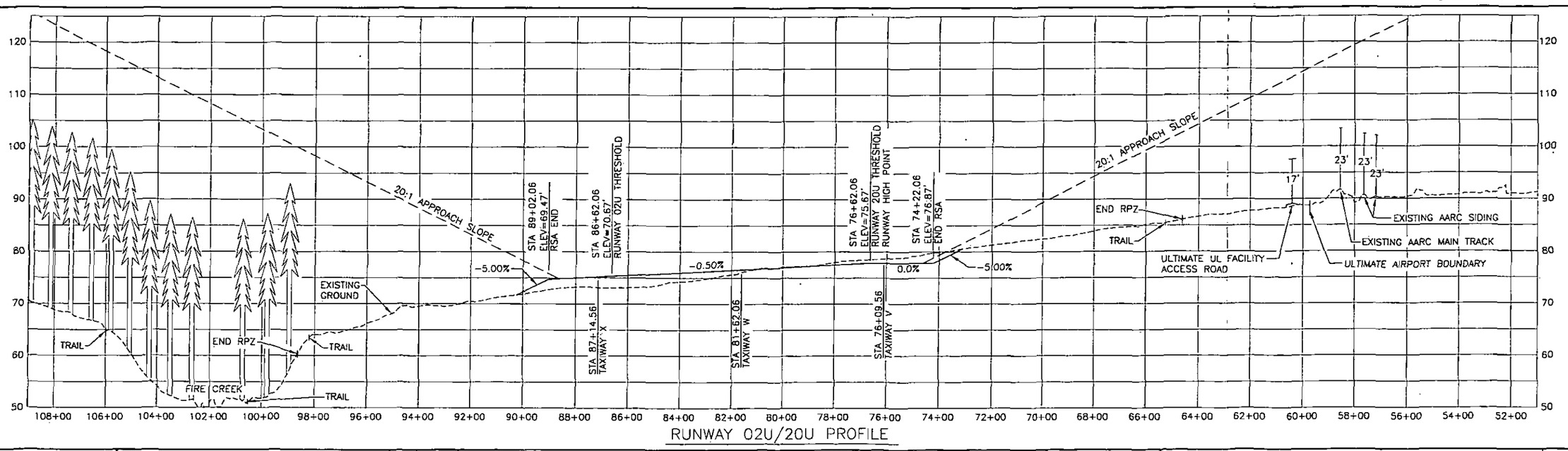


RUNWAY 02U/20U PLAN

ULTIMATE UL TAXIWAY DATA			
ITEM	WIDTH	LENGTH	SHOULDER WIDTH
PARALLEL TAXIWAY U	25'	1,150'	10'
CONNECTING TAXIWAYS V, W, X	25'	87.5'	10'

UL= ULTRALIGHT
ARRC= ALASKA RAILROAD

200 0 200 400 800 1000
1" = 200'



RUNWAY 02U/20U PROFILE

DRAFT

AIRPORT LAYOUT PLAN CONDITIONAL APPROVAL
SUBJECT TO ALP APPROVAL LETTER
DATED: _____
By: _____
FAA, AIRPORTS DIVISION
ALASKAN REGION, D2AAL-190NRA
DATE: _____
FAA AIRSPACE REVIEW NUMBER: 05-AAL-XXXXX-XXXXXX

BY	DATE	REVISIONS

STATE OF ALASKA
DEPARTMENT OF TRANSPORTATION AND PUBLIC FACILITIES
CENTRAL REGION-DESIGN AND CONSTRUCTION-AVIATION

APPROVED: _____ DESIGN SECTION CHIEF
HARVEY W. DOUTHIT P.E.
APPROVED: _____ PROJECT MANAGER
DONALD W. BAXTER, P.E.

DATE: SEPTEMBER 2005
DESIGN: DJG
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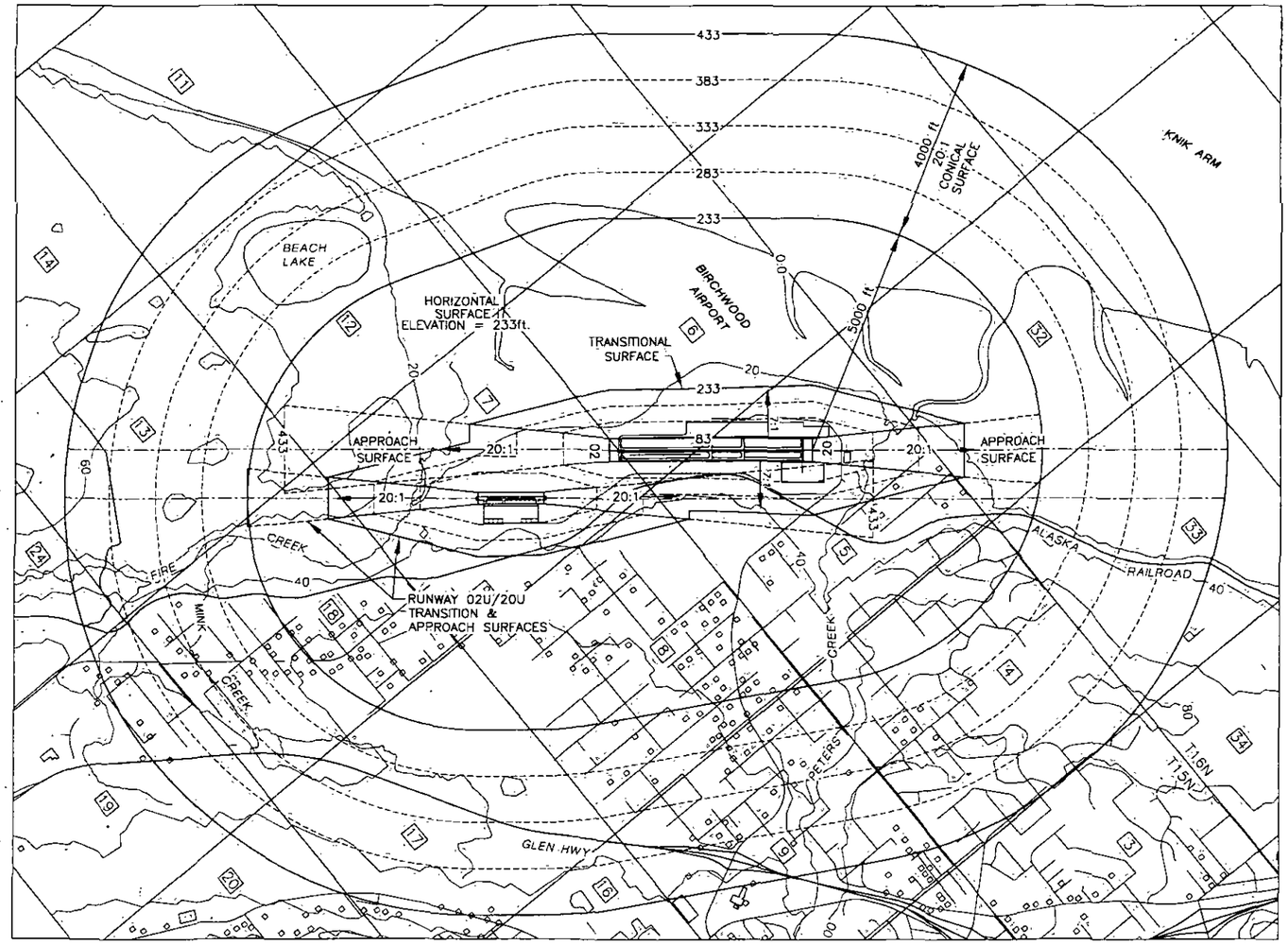
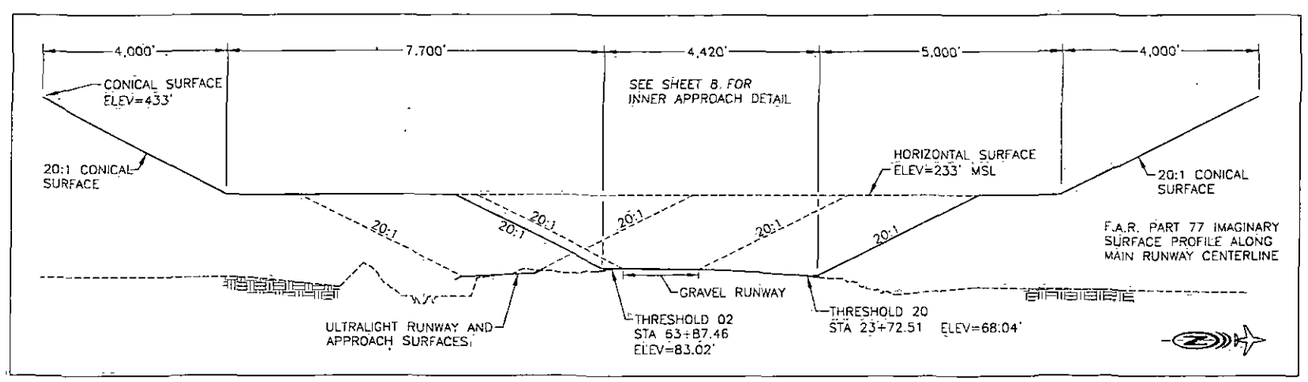
CHECKED: ESW

BIRCHWOOD AIRPORT
AIRPORT LAYOUT PLAN
RUNWAY 02U/20U
PLAN AND PROFILE

SHEET 9 OF 15





2005 MAG DEC = 20.48 E

LEGEND

OBSTRUCTION AREA

NOTES

1. ELEVATIONS ARE IN FEET.
2. AIRPORT ELEVATION IS 83' M.S.L. SEE NOTE 1, SHEET 2
3. HORIZONTAL SURFACE IS 150 FEET ABOVE AIRPORT ELEVATION.
4. THIS DRAWING IS BASED ON U.S.G.S QUAD ANCHORAGE (B-7 NW) ALASKA 1979 (REV. 1993)
5. REFER TO THE INNER PORTION OF THE APPRAOCH SURFACE PLAN VIEW DETAILS FOR CLOSE IN OBSTRUCTIONS, SHEET 8
6. SEE SHEET 12, FOR TREE OBSTRUCTIONS TO APPROACH AND TRANSITION SURFACES.
7. RUNWAY 02/20 PRIMARY SURFACE IS 500' WIDE. RUNWAY 02S/20S PRIMARY SURFACE IS 250' WIDE. RUNWAY 02U/20U PRIMARY SURFACE IS 250' WIDE.
8. RUNWAY 02S/20S PRIMARY AND APPROACH SURFACES CONTAINED WITHIN RUNWAY 02/20 SURFACES.

SCALE IN FEET
0 750' 1500' 3000' 4500'
0 1/4 1/2 3/4 1
SCALE IN MILES

DRAFT

FAA AIRSPACE REVIEW NUMBER:
02AAL-XXXXX-XXXXXX

AIRPORT LAYOUT PLAN CONDITIONAL APPROVAL SUBJECT TO ALP APPROVAL LETTER DATED _____

By: _____ DATE: _____
FAA, AIRPORTS DIVISION
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BY	DATE	REVISIONS

DATE SEPTEMBER 2005
DESIGN DJG
DRAWN TJH
CHECKED ESW

STATE OF ALASKA
DEPARTMENT OF TRANSPORTATION AND PUBLIC FACILITIES
CENTRAL REGION

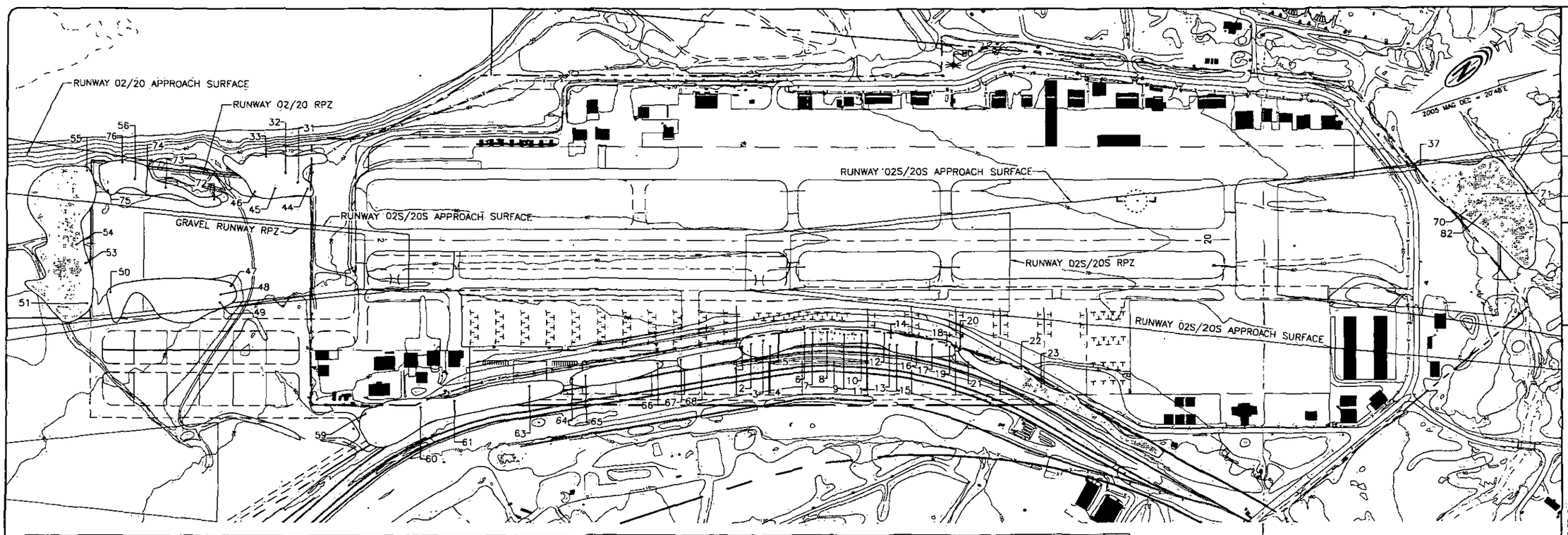
DESIGN SECTION CHIEF
APPROVED: HARVEY M. DOUTHIT, P.E.
PROJECT MANAGER
APPROVED: DONALD W. BAXTER, P.E.

BIRCHWOOD AIRPORT

AIRPORT LAYOUT PLAN

F.A.R. PART 77 AIRSPACE

SHEET 10 OF 15



OBSTRUCTION TABLE

OBSTRUCTION NUMBER	OBSTRUCTION ELEVATION	OBSTRUCTION	AMOUNT OF OBSTRUCTION	DESCRIPTION	DISPOSITION
1	135.2	YES	21.6	OBSTRUCTION TO 7:1 TRANSITIONAL SURFACE	REMOVE
2	134.1	YES	22.2	OBSTRUCTION TO 7:1 TRANSITIONAL SURFACE	REMOVE
3	133.4	YES	24.2	OBSTRUCTION TO 7:1 TRANSITIONAL SURFACE	REMOVE
4	132.2	YES	19.4	OBSTRUCTION TO 7:1 TRANSITIONAL SURFACE	REMOVE
5	127.4	YES	22.6	OBSTRUCTION TO 7:1 TRANSITIONAL SURFACE	REMOVE
6	134.8	YES	30.4	OBSTRUCTION TO 7:1 TRANSITIONAL SURFACE	REMOVE
7	133.5	YES	29.2	OBSTRUCTION TO 7:1 TRANSITIONAL SURFACE	REMOVE
8	135.1	YES	31.3	OBSTRUCTION TO 7:1 TRANSITIONAL SURFACE	REMOVE
9	139.7	YES	35.5	OBSTRUCTION TO 7:1 TRANSITIONAL SURFACE	REMOVE
10	142.6	YES	38.7	OBSTRUCTION TO 7:1 TRANSITIONAL SURFACE	REMOVE
11	141.3	YES	38.5	OBSTRUCTION TO 7:1 TRANSITIONAL SURFACE	REMOVE
12	139.9	YES	37.3	OBSTRUCTION TO 7:1 TRANSITIONAL SURFACE	REMOVE
13	140.0	YES	30.2	OBSTRUCTION TO 7:1 TRANSITIONAL SURFACE	REMOVE
14	140.3	YES	34.9	OBSTRUCTION TO 7:1 TRANSITIONAL SURFACE	REMOVE
15	138.7	YES	28.5	OBSTRUCTION TO 7:1 TRANSITIONAL SURFACE	REMOVE
16	138.9	YES	31.2	OBSTRUCTION TO 7:1 TRANSITIONAL SURFACE	REMOVE
17	135.1	YES	26.2	OBSTRUCTION TO 7:1 TRANSITIONAL SURFACE	REMOVE
18	134.5	YES	25.5	OBSTRUCTION TO 7:1 TRANSITIONAL SURFACE	REMOVE
19	145.0	YES	35.0	OBSTRUCTION TO 7:1 TRANSITIONAL SURFACE	REMOVE
20	132.6	YES	21.4	OBSTRUCTION TO 7:1 TRANSITIONAL SURFACE	REMOVE
21	135.9	YES	16.6	OBSTRUCTION TO 7:1 TRANSITIONAL SURFACE	REMOVE
22	140.1	YES	17.7	OBSTRUCTION TO 7:1 TRANSITIONAL SURFACE	REMOVE
23	143.4	YES	9.9	OBSTRUCTION TO 7:1 TRANSITIONAL SURFACE	REMOVE
31	133.5	YES	47.2	OBSTRUCTION TO 7:1 TRANSITIONAL SURFACE	REMOVE
32	142.4	YES	48.1	OBSTRUCTION TO 7:1 TRANSITIONAL SURFACE	REMOVE
33	151.0	YES	43.8	OBSTRUCTION TO 7:1 TRANSITIONAL SURFACE	REMOVE
37	117.6	YES	17.2	OBSTRUCTION TO 20:1 APPROACH SURFACE	REMOVE
44	126.5	YES	42.8	OBSTRUCTION TO 20:1 APPROACH SURFACE	REMOVE
45	130.5	YES	39.5	OBSTRUCTION TO 20:1 APPROACH SURFACE	REMOVE
46	137.7	YES	42.1	OBSTRUCTION TO 20:1 APPROACH SURFACE	REMOVE
47	141.1	YES	39.9	OBSTRUCTION TO 20:1 APPROACH SURFACE	REMOVE
48	148.5	YES	45.4	OBSTRUCTION TO 20:1 APPROACH SURFACE	REMOVE
49	153.4	YES	50.1	OBSTRUCTION TO 20:1 APPROACH SURFACE	REMOVE

OBSTRUCTION TABLE

OBSTRUCTION NUMBER	OBSTRUCTION ELEVATION	OBSTRUCTION	AMOUNT OF OBSTRUCTION	DESCRIPTION	DISPOSITION
50	139.4	YES	10.9	OBSTRUCTION TO 20:1 APPROACH SURFACE	REMOVE
51	142.5	YES	8.4	OBSTRUCTION TO 20:1 APPROACH SURFACE	REMOVE
53	138.6	YES	4.0	OBSTRUCTION TO 20:1 APPROACH SURFACE	REMOVE
54	139.8	YES	2.9	OBSTRUCTION TO 20:1 APPROACH SURFACE	REMOVE
55	135.5	YES	1.0	OBSTRUCTION TO 20:1 APPROACH SURFACE	REMOVE
56	146.1	YES	22.8	OBSTRUCTION TO 20:1 APPROACH SURFACE	REMOVE
59	161.3	YES	1.6	OBSTRUCTION TO 7:1 TRANSITIONAL SURFACE	REMOVE
60	164.1	YES	8.8	OBSTRUCTION TO 7:1 TRANSITIONAL SURFACE	REMOVE
61	155.9	YES	5.2	OBSTRUCTION TO 7:1 TRANSITIONAL SURFACE	REMOVE
63	152.0	YES	11.4	OBSTRUCTION TO 7:1 TRANSITIONAL SURFACE	REMOVE
64	148.0	YES	11.9	OBSTRUCTION TO 7:1 TRANSITIONAL SURFACE	REMOVE
65	150.1	YES	16.2	OBSTRUCTION TO 7:1 TRANSITIONAL SURFACE	REMOVE
66	139.3	YES	13.8	OBSTRUCTION TO 7:1 TRANSITIONAL SURFACE	REMOVE
67	144.3	YES	21.4	OBSTRUCTION TO 7:1 TRANSITIONAL SURFACE	REMOVE
68	140.0	YES	20.0	OBSTRUCTION TO 7:1 TRANSITIONAL SURFACE	REMOVE
70	114.2	YES	3.5	OBSTRUCTION TO 20:1 APPROACH SURFACE	REMOVE
71	115.5	YES	0.8	OBSTRUCTION TO 20:1 APPROACH SURFACE	REMOVE
72	126.7	YES	21.9	OBSTRUCTION TO 20:1 APPROACH SURFACE	REMOVE
73	141.1	YES	25.3	OBSTRUCTION TO 20:1 APPROACH SURFACE	REMOVE
74	140.7	YES	20.5	OBSTRUCTION TO 20:1 APPROACH SURFACE	REMOVE
75	135.3	YES	6.0	OBSTRUCTION TO 20:1 APPROACH SURFACE	REMOVE
76	142.6	YES	16.6	OBSTRUCTION TO 20:1 APPROACH SURFACE	REMOVE
80	120.5	YES	7.6	ROTATING BEACON OBSTRUCTION TO 7:1 TRANSITIONAL SURFACE	REMAIN
82	116.4	YES	2.3	OBSTRUCTION TO 20:1 APPROACH SURFACE	REMOVE

RUNWAY PLAN 02/20

300 0 300 600 900 1200

1" = 300'

NOTES

- THE SHADED AREAS REPRESENT A GROUP OF TREES THAT PENETRATE THE PART 77 TRANSITIONAL SURFACE.
- THE OBSTRUCTION NUMBER IDENTIFIES REPRESENTATIVE TREES OF EACH GROUP.
- OBSTRUCTION ELEVATION IS THE ELEVATION OF THE TREE TOPS.
- AMOUNT OF OBSTRUCTION IS THE LENGTH OF TREE ABOVE THE PART 77 SURFACE.
- RUNWAY ELEVATION IS 83' M.S.L.
- ELEVATIONS ARE IN FEET.
- TREE HEIGHTS DETERMINED BY PHOTOGRAMMETRIC METHODS FROM AERIAL PHOTOGRAPHY ACQUIRED ON 5-26-2000.
- BEFORE OBSTRUCTION REMOVAL A MORE COMPLETE OBSTRUCTION SURVEY SHOULD BE COMPLETED.

LEGEND

OBSTRUCTION KEY

GROUP OF TREES PENETRATING PART 77 SURFACE

OBSTRUCTION LOCATION

29 OBSTRUCTION NUMBER

DRAFT

FAA AIRSPACE REVIEW NUMBER:
02AAL-XXXXX-XXXXXX

AIRPORT LAYOUT PLAN CONDITIONAL APPROVAL SUBJECT TO ALP APPROVAL LETTER DATED _____

By: _____ DATE: _____
FAA; AIRPORTS DIVISION
ALASKAN REGION, 02AAL-190NRA

REVISIONS | BY | DATE

DATE SEPTEMBER 2005
DESIGN DJG
DRAWN TJH
CHECKED ESW

STATE OF ALASKA
DEPARTMENT OF TRANSPORTATION AND PUBLIC FACILITIES
CENTRAL REGION

DESIGN SECTION CHIEF

APPROVED: HARVEY M. DOUTHIT, P.E.
PROJECT MANAGER

APPROVED: DONALD W. BAXTER, P.E.

BIRCHWOOD AIRPORT

OBSTRUCTION LAYOUT PLAN

AIRSPACE F.A.R. PART 77

SHEET 11 OF 15

AIRPORT LAND USE LEGEND

A	AVIATION USE	A–M	AIRPORT MAINTENCE & SUPPORT
A–R	AIRPORT RESERVE	A–TL	AIRPORT TERMINAL AREA LANDSIDE
A–TA	AIRPORT TERMINAL AREA AIRSIDE	A–UL	AIRPORT ULTRALIGHT RESERVE
		R–YR	ARRC RAIL YARD RESERVE

PARCEL NUMBER
ZONE

I1SL = LIGHT INDUSTRIAL
I2SL = HEAVY INDUSTRIAL
PLI = PUBLIC LANDS & INSTITUTIONS
R6 = SUBURBAN RESIDENTIAL
T = TRANSITION, NONRESIDENTIAL

2005 MAG DEC = 20°48'E

BIRCHWOOD RECREATION AND SHOOTING PARK

5175105 R6
5175103 R6
5175104 T
5175102 I1SL
5175112 R6
5116301 R6
5116206 R6
5116207 R6
5116205 R6
5175109 R6
5116217 R6
5116208 R6
5116204 R6
5116218 R6
5116216 R6
5116209 R6
5116203 R6
5116219 R6
5116215 R6
5116210 R5
5116202 R6
5116227 R6
5116226 R5
5116220 R6
5116214 R6
5116211 R6
5116225 R6
5116221 R6
5116213 R6
5116212 R6
5116201 R6
5116224 R6
5116222 R6
5116223 R6
5160109 I1SL
5160111 I1SL
5159101 T
5160110 I1SL
SNOW STORAGE
510333 PLI
510332 PLI
5103322 I1SL
5103334 I1SL
5109404 I2SL
5109405 I1SL
5109405 I1SL

02/20 RPZ
02S/20S RPZ
02U/20U RPZ

A
A–R
A–TA
A–TL
A–M
A–UL
R–YR

FIRE CREEK

300 0 300 600 900 1200
1" = 300'

DRAFT

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DEPARTMENT OF TRANSPORTATION AND PUBLIC FACILITIES
CENTRAL REGION–DESIGN AND CONSTRUCTION–AVIATION

APPROVED: _____
HARVEY M. DOUTHIT, P.E. DESIGN SECTION CHIEF

APPROVED: _____
DONALD W. BAXTER, P.E. PROJECT MANAGER

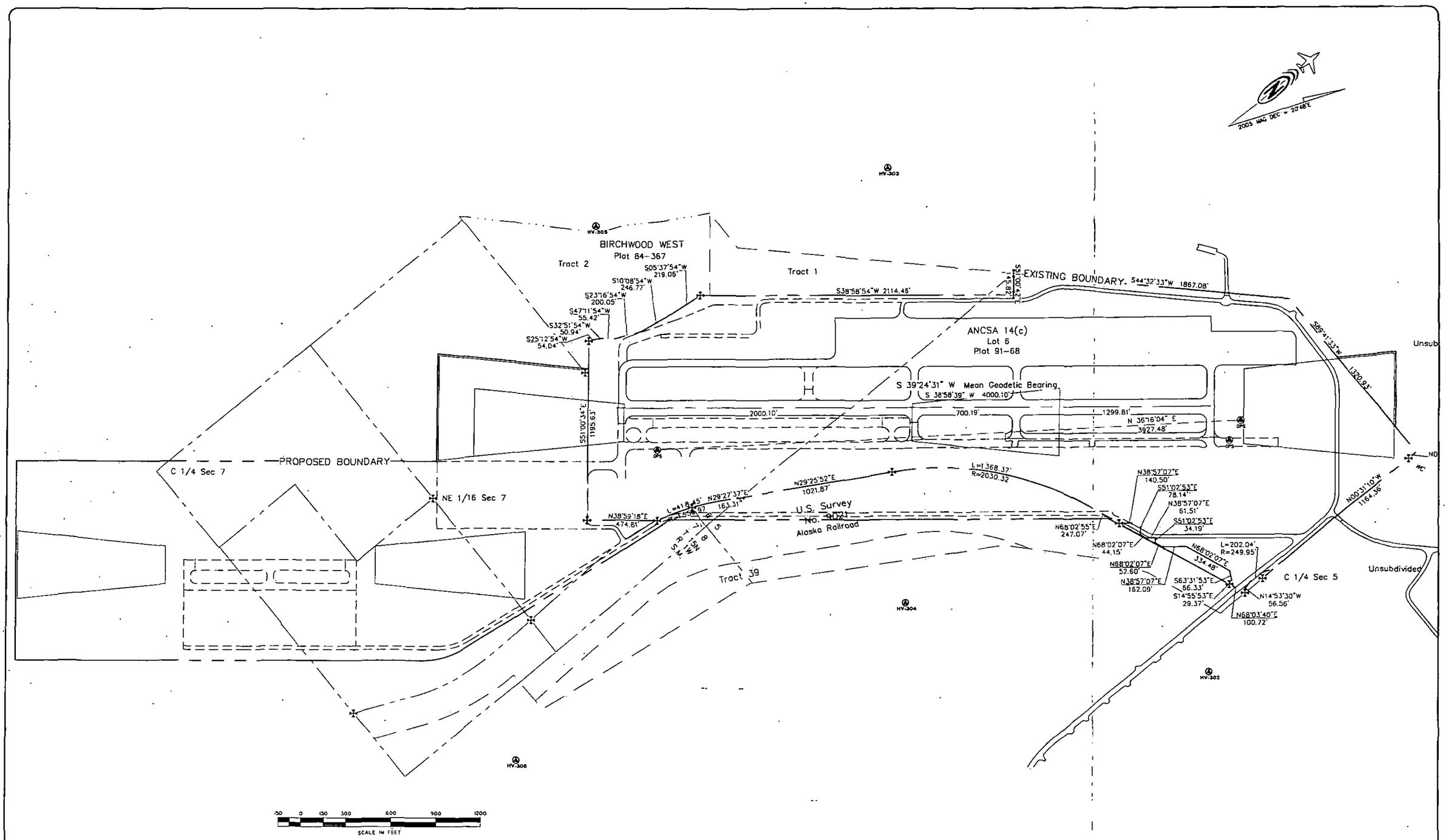
DATE: SEPTEMBER 2005
DESIGN: DJG
DRAWN: LJW
CHECKED: ESW

BIRCHWOOD AIRPORT

AIRPORT LAYOUT PLAN

LAND USE PLAN

SHEET 12 OF 15



DRAFT

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CENTRAL REGION-DESIGN AND CONSTRUCTION-AVIATION

APPROVED: _____
HARVEY M. DOUTHIT P.E. DESIGN SECTION CHIEF

APPROVED: _____
DONALD W. BAXTER, P.E. PROJECT MANAGER

DATE: SEPTEMBER 2005
DESIGN: DJG
DRAWN: LJW
CHECKED: ESW

BIRCHWOOD AIRPORT

AIRPORT LAYOUT PLAN

PROPERTY MAP

SHEET 13 OF 15

A. Purpose
This Narrative Report is included with the Airport Layout Plan (ALP) for Birchwood, Alaska, in accordance with Federal Aviation Administration (FAA) Airport Design Advisory Circular (AC) 150/5070-6B, Section 1008. The development criteria and rationale for improvements to the Birchwood Airport is outlined in this narrative report.

B. Introduction:
Birchwood Airport is located approximately 23 miles north of Anchorage and 2 miles west of the Glenn Highway along Knik Arm at latitude of 61° 25'N and a longitude of 149° 30'W. Birchwood is located in the Chugiak-Eagle River area, a subdivision of the Municipality of Anchorage located on the shoreline of the Knik Arm at an elevation of 83.02 ft mean sea level (MSL). The Chugiak-Eagle River area is part of the Municipality of Anchorage and is represented by Assembly District 2.

A group of Native Alaskan's originally inhabited the area several hundred years ago. The federal government and the construction of the Alaska Railroad have principally defined the modern history of the Birchwood area. The Chugiak-Eagle River area is currently a suburban residential area. The Alaska Railroad maintains an active rail yard adjacent the east side of Birchwood Airport. The land within this yard is zoned light industrial & parts of it are leased to other parties. Most residents who live in this area commute to Anchorage, Eagle River, or the Matanuska Valley for work.

C. Airport Usage and Forecasts
The 1998 AASP classifies the Birchwood Airport as a Local Airport. Local airports serve as secondary access to communities connected to the road network or already served by a close-by larger airport. Local airports are, airports, heliports, or seaplane facilities that are not in the regional or community classes. This classification is not expected to change during the duration of the 20-year planning period.

Aircraft operations at Birchwood Airport support general aviation operations including, ultralight aircraft, search and rescue operations, flight school activities and guide services. There are approximately 446 based aircraft at Birchwood airport. Current lease lot information reports 40 lots and 128 tie-downs currently leased. The FAA categorizes airports based on types. The FAA defines Birchwood airport as a general aviation (local or itinerant) airport. No air taxis are based at Birchwood and no air carriers or military currently use or are expected to use the airport during the planning period.

The fleet mix currently used by the majority of airport users is listed below:

Table 1 Design Group	Aircraft
A-I	Cessna 172, 180, 210, 310, 320, Piper PA-12, PA-18, Aztec Light Sport Aircraft, Ultralight Vehicles
A-II	Cessna Caravan, Beech 18, DHC-6 Twin Otter
B-I	Piper Navajo, Beech Baron, Cessna 402
B-II	Cessna Conquest, Beech King Air B-200

Operations forecasts are based on a number of factors including post airport activity, available information about the aircraft operations and socio-economic factors and demographics of the region. As an airport within the Municipality of Anchorage, Birchwood supports a large amount of the general aviation traffic and flight school operations. At least 40 ultralight vehicles are have been based at Birchwood airport over the years.

Table 2 Forecasts			
Year	Current 2005	2010 (Projected)	2020 (Projected)
Local Operations	52,352	55,099	65,400
Itinerant Operations	34,901	36,732	43,600
Total Annual Operations	86,108	91,831	109,000
Airport Reference Code	B-II	B-II	B-II
Number of Based Aircraft	446	509	560

D. Design Rationale
1. Airport Reference Code:
The category and group for airports classified as a Local Airport by the Alaska Airport system plan is B-I; however, the forecast fleet mix for the Birchwood Airport will be comprised of A-I, A-II and B-I aircraft. The combination of the ARCs for these aircraft results in an overall ARC of B-II. The gravel or ski strip is A-I; the ultralight strip is A-1.

2. Wind Coverage
Wind data (speed and direction) for the Birchwood Airport was acquired for a period between July 1996 and December 1998 and used to compute wind coverage percentages. Wind data was analyzed using the FAA 4.2D version Airport Design, Standard Wind Analysis microcomputer program. Both runways have an orientation of approximately 39 degrees true north. The wind analysis indicates that both runways have wind coverage exceeding 95% aircraft with an ARC of A-I and above. The optimal runway orientation for maximum wind coverage ranges from 39.2 degrees to 48 degrees. Based on an analysis of the available wind data, the existing runways have sufficient wind coverage.

Table 3 % Coverage				
Crosswind Component	Airport Reference Code	Runway 02/20	Runway 02S/20S	Runway 02U/20U
10.5 Knots	A-I and B-I	99.65%	99.65%	99.65%
13.0 Knots	A-II and B-II	99.81%	99.81%	99.81%

E. Runway
Birchwood Airport has a need to provide both a hard surfaced runway and a gravel-surfaced runway. The gravel runway is intended for use in summer by aircraft equipped with tundra tires and in winter by aircraft equipped with skis. The gravel runway is left unplowed in the winter to accommodate ski use.

A significant operational problem at Birchwood Airport is the potential for simultaneous aircraft operations off the two runways. These runway centerlines are currently only separated by 200 feet, which is far enough apart to encourage pilots to make simultaneous operations but is much shorter than the 700 feet minimum required for safe simultaneous VFR operations.

This layout plan proposes to move the gravel runway to be adjacent the main runway and the two runways will be managed as a single runway of which aircraft can either land or takeoff on the asphalt surface or the gravel surface. The existing gravel runway 01R/19L will revert back to use as a taxiway.

FAA Advisory Circular 150/5325-4A, Runway Length Requirements for Airport Design, runway length recommendations for B-II aircraft are as follows: with less than ten seats, 3,600 ft; with more than ten seats, 4,150 ft.

Presently, Birchwood Airport has two parallel runways roughly oriented to magnetic north and south. Runway 02/20 is the larger of the two runways and has the higher number of operations. It is paved with asphalt concrete and is 4,010 ft long and 100 ft wide. The asphalt concrete pavement is 27 years old and the maximum allowable aircraft weight is 12,500lbs. The February 2002 Pavement Condition Index recommends that the entire airport pavement will be in need of corrective maintenance over the planning horizon (20 years). The asphalt surfaces will need to be rehabilitated in the mid-term.

Existing runway 01R/19L is a gravel runway, 2,200 ft long (600 ft pavement and 1,600 ft gravel) and 50 ft wide, intended for use by GA aircraft equipped with tundra tires or skis and by ultralight vehicles. The proposed development will create a new gravel runway, 02S/20S, 1,535 x 60 feet.

The mixing of slower ultralight air vehicles with faster GA aircraft is an operational issue at Birchwood Airport. To address this issue the ultralight runway will be separated from the GA runway. Draft FAA Advisory Circular 150/5325-4B runway length recommendation for ultralight vehicles is between 300 and 800 feet depending upon the approach speed. The proposed ultralight development will create a runway, 02U/20U, 1,000 x 50 feet. This runway will be designed to A-I small aircraft standards and an operational agreement will be in place to limit its use to aircraft with approach speeds of 50 knots or less. Therefore, some light-sport aircraft and slower GA aircraft may also use this new runway.

This new runway will have the same orientation as runway 02/20 and is expected to have the same wind coverage. The Part 77 airspace will be slightly enlarged to accommodate the new runway. The new runway is in a wooded area; thus, trees could obstruct the approach and transition surfaces. The RPZs will be clear of trees and other obstructing trees will be removed as necessary. The terrain considered for the new runway is gently sloping down to the south; to reduce the amount of grading the runway will have a 0.50% slope with the north end higher.

F. Taxiway
Six taxiways provide access to Birchwood's two runways; all are 50 ft wide and can support an aircraft maximum gross weight of 12,500 pounds. The aprons and parking areas lead to two parallel taxiways (A and B). Four short taxiways connect the parallel taxiways to the runway. All the west side taxiways meet or exceed B-II standards. The eastside taxiways C, D, E, G, and the north half of taxiway A from C to E meet B-II standards. Taxiways H & I and the south half of taxiway A from E to G meet A-I standards. The new gravel runway development will eliminate the impromtu taxiway created between the southern end of the existing gravel runway and the main runway.

No connecting taxiway between the ultralight runway and the rest of the airport is planned.

G. Aprons
The Birchwood Airport provides three paved locations to accommodate aircraft parking and tie-downs.

Table 3 Apron	Current Area (sf)	Proposed Area (sf)	Current Tie-Downs	Proposed Tie-Downs
Southeast	194,625	2,271,002*	45	313
Northeast	388,875		99	
West	631,675	732,830	221	221
Apron Total (sf)	1,215,175	2,003,831	365	534
Tie downs outside the aprons	N/A	N/A	65	N/A
Ultralight Apron	N/A	194,625	N/A	72
Total Tie Downs	N/A	N/A	430	606

* Proposed east Apron development combines Southeast and Northeast Aprons

H. Property Status:
Municipal zoning and platting ordinances do not apply to the Birchwood Airport because it is located on state property. The airport property is presently zoned for Light Industrial (I-1). The surrounding land is zoned for Light Industrial (I-1), Heavy Industrial (I-2), Public Lands and Institutions (PLI), and Suburban Residential (R-6) (large lot).

I. NON-STANDARD CONDITIONS:
The existing airport operates under the stipulations set forth in Case No. 98-AAL-137-NRA, Non-simultaneous operations airspace. This document describes the non-standard runway separation distance and prohibits simultaneous operations on the two runways. The proposed development intended to correct this non-standard condition.

Birchwood Airport has a reference code of B-II. The southeast apron of the airport is set aside to accommodate tundra tire and ski operations and all the aircraft participating in these special operations are of A-I classification. The gravel runway and the taxiways within this special operations area are designed to A-I standards.

There are currently Object Free Zone penetrations. The existing airport perimeter fence crosses the OFZ, RSA and OFA at the approach end of runway 02. This part of the fence will be relocated to route around the outer edge of the RSA and OFA. This relocation will place the fence beyond the OFZ.

There are threshold siting surface penetrations for runway 02/20. Trees penetrate this surface for both runways. Tracts IV, VI and Parcel B have an Avigation and Hazard easement that will allow tree cutting to maintain a height limitation of 55' above the natural surface. Obstructing trees will removed from airport property and the easements. Permission to remove obstructing off airport property will be sought from Eklutna Inc. and the Alaska Railroad Corporation. The Alaska Railroad Corporation has a permit process in place for tree removal on their property.

It is desirable for the airport owner to purchase Tracts IV & VI and Parcels B, B-1 & B-2 in order to control the north and south RPZs. Avigation and Hazard easements exist for Tracts IV & VI and Parcel B. If Parcels B-1 & B-2 cannot be purchased then Avigation and Hazard easements need to be permitted for them.

J. Coordination
The master plan addresses the scope and results of the coordination that has occurred on this project. The most significant coordination involves moving the Alaska Railroad's tracks so that the full east side apron can be developed. Another important coordination effort pertains to construction of the new UL runway in wetlands. Coordination with the FHWA is not applicable on this project.

DRAFT

AIRPORT LAYOUT PLAN CONDITIONAL APPROVAL
SUBJECT TO ALP APPROVAL LETTER
DATED: _____

By: _____
FAA, AIRPORTS DIVISION
ALASKAN REGION, 02AAL-190NRA

DATE: _____

FAA AIRSPACE REVIEW NUMBER: 05-AAL-XXXXX-XXXXXX

BY	DATE	REVISIONS

STATE OF ALASKA
DEPARTMENT OF TRANSPORTATION AND PUBLIC FACILITIES
CENTRAL REGION-DESIGN AND CONSTRUCTION-AVIATION

APPROVED: _____
HARVEY M. DOUTHIT P.E. DESIGN SECTION CHIEF

APPROVED: _____
DONALD W. BAXTER, P.E. PROJECT MANAGER

DATE: SEPTEMBER 2005
DESIGN: DJG
DRAWN: LJW
CHECKED: ESW

BIRCHWOOD AIRPORT

AIRPORT LAYOUT PLAN

NARRATIVE REPORT

SHEET 14 OF 15

K. Phased Improvement Program

Phase I: Short Term (0–5 years)

1 RPZ PROPERTY ACQUISITION
$370,000
Acquire property both north and south of the runway to contain the RPZs. The property to be acquired are tracts IV & VI and parcels B, B-1 & B-2.

Rationale: Where practical, airport owners should own the property under the runway approach and departure areas to at least the limits of the RPZ to prevent use and development that is not compatible with aircraft operations.

2 SECURITY FENCE RELOCATION
$40,000
Relocate the fence that crosses the southern end of the RSA.

Rationale: To enhance safety the RSA should be free of all objects.

3 FAR PART 77 OBSTRUCTION REMOVAL
$94,000
Remove trees that obstruct the approach slopes, transitional surfaces and remove trees within the RPZ. Some of the trees are off airport property, permission for tree cutting will be required.

Rationale: Objects protruding into the Part 77 imaginary surfaces provide an obstacle to safe air navigation.

4 CHANGE MAIN RUNWAY DESIGNATION MARKINGS
$110,000
Remove old runway end identifier numbers 1L/19R and paint the new numbers 2/20. Replace signs to show the new identifier numbers.

Rationale: The change in the magnetic declination has resulted in a runway magnetic heading of 18 degrees. The new headings for the runway are 20 degrees and 200 degrees or 02/20.

5 CONSTRUCT NEW GRAVEL RUNWAY 02S/20S
$1,100,000
Construct new 1,535' X 60' gravel surfaced runway adjacent and parallel to Runway 02. Old runway 01R/19L to return to being taxiway A.

Rationale: The existing separation between the main and gravel runways is 200 feet. To correct this deficient separation the gravel runway is moved to be adjacent the main runway and will be managed as a single runway of which aircraft can either land on the asphalt surface or the gravel surface.

6 CONSTRUCT NEW ULTRALIGHT RUNWAY 02U/20U
$4,400,000
Construct a new separate ultralight runway, taxiways, apron, and access road

Rationale: To provide for safe air operations the slower ultralight and light sport aircraft air traffic should be separated from the faster GA air traffic.

7 RELOCATE TAXIWAY A
$950,000
Move taxiway A to satisfy A-I and B-II separation standards for runways 02/20 and 2S/20S

Rationale: Runway 02/20 has an ARC of B-II, runway 02S/20S ARC is A-I. The existing separation between Runway 02/20 and the north half of parallel taxiway A is 200 feet; to meet B-II standards this separation is increased 40 feet to 240 feet. The separation between Runway 02S/20S and the south half of parallel taxiway A is 100 feet; to meet A-I standards this separation is increased 50 feet to 150 feet.

8 NORTHEAST APRON EXPANSION
$750,000
Expand the Northeast apron by 171,200 square feet.

Rationale: To meet existing and forecast demand for increased number of tiedowns

9 DEVELOP NEW LEASE LOTS
$2,500,000
Expand the southeast apron for development of 12 new lease lots. Expand the southwest apron for lease lot development.

Rationale: To meet existing and forecast demand for increased number of lease lots

10 SECURITY FENCE
$350,000
Inspect/repair existing security fence and install new fence around area of airport expansion.

Rationale: Following the short term development, the airport boundary will be expanded. A new fence will be needed to surround the new airport expansion and to replace to older fence as needed to prevent unauthorized incursions.

Phase II: Mid Term (5–10 years)

1 PURCHASE PROPERTY FOR COMPATIBLE LAND USE
$2,700,000
Acquire property to allow for the east apron expansion

Rationale: Property acquisition will ensure that future development of the airport is protected from encroaching and potentially incompatible land uses.

2 EAST SIDE APRON EXPANSION
$25,000,000
The first task is to realign the railroad tracks to provide the space for the new apron. This includes creating a new airport perimeter road and a new rail access road on the west side of the tracks. The second task is to construct the east apron and provide area for five new lease lots

Rationale: Presently, there is need for more aviation-related developable land at the airport. The railroad tracks, in their present location, prevent the airport from having an efficient, adequately-sized east side development and apron. Relocating the tracks will allow the full east side apron to be developed.

3 NEW TAXIWAY
$68,000
Construct new taxiway to connect taxiway B with runway 02/20 about 1,200 feet north of the south end of the runway

Rationale: To help increase operational capacity to meet forecast demand by allowing landing aircraft to more quickly leave the runway once on the ground.

4 RUNWAY & TAXIWAY PAVEMENT REHABILITATION
$500,000
Runway/Taxiway pavement rehabilitation

Rationale: The airport was originally paved in 1978 and has not been resurfaced. The 2002 Pavement Condition Index report indicates that the entire airport will need rehabilitation and paving of degraded pavement by 2006.

Phase III: Long Term (10 – 20 years)

1 ADDITIONAL EAST SIDE LEASE LOT DEVELOPMENT
$3,200,000
Develop seven new lease lots along the east apron

Rationale: To meet forecast needs

2 AIRPORT PERIMETER ROAD IMPROVEMENTS
$200,000
Resurface the existing airport perimeter road

Rationale: Replace and repair deteriorating pavement.

3 NORTHEAST APRON PAVEMENT REHABILITATION
$500,000
Resurface and restripe the northeast apron

Rationale: Replace and repair deteriorating pavement

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